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TECHNICAL TRANSLATIONS

U.S. DEPARTMENT OF COMMERCE
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TECHNICAL TRANSLATIONS

Volume 7, Number 5 Pages 243 - 315 March 15, 1962

*Descriptors marked with an asterisk are included in the subject index.

BIBLIOGRAPHY

Office of Technical Services, Dept. of Commerce, Washington, D. C.
CONTAINERS, PACKAGING, MATERIAL HANDLING, STORAGE. Nov 61, 27p. 490 refs. OTS Selective Bibliography SB-476.

DESCRIPTORS: *Containers, *Packaging, Materials, Handling, Storage, Cargo, *Bibliography

Lists 490 references (PB, AD, and AEC reports, translations; patents) on containers, packaging, materials handling, and storage. Includes reports pertinent to: packaging and containers for all types of materials and products; various materials used for packaging; cargo handling; transportability; safety; air and space flight requirements. (Author)

AGRICULTURE

SCIENTIFIC AND TECHNOLOGICAL ITEMS.
7 July 61 [12]p. JPRS: 8555.
Order from OTS or SLA $1.60 61-27210

Trans. from Kuang Ming Jih Pao (Chinese People's Republic) 1961, 2 Feb, p. 1; 3 Feb, p. 2; 4 Feb, p. 2 and Jen Min Jih Pao (Chinese People's Republic) 1961, 29 Jan, p. 6.

DESCRIPTORS: *Weather forecasting, Mountains, Agriculture, *Agricultural machinery, *Machines, Machine tools, Rice, *Food, Tractors, *Soils, Artificial precipitation, Snow, Plants, Seeds, Growth.

Contents:
The Nanking Agricultural Mechanization Research Institute concentrates on designing of cultivating machinery and tools suitable for water rice in the south
The Nanking Geographic Institute cooperates with related units to develop research work on Kiangsu's natural area division
Weather forecasting and reporting, by Chao Hsi-meng
High mountain research in Sinkiang.

SOVIET AGRICULTURE: [SELECTED TRANSLATIONS] NO. 64. 28 June 61 [28]p. JPRS: 8520.
Order from OTS or SLA $2.60 61-27077

Trans. of Kommunist, Moscow (USSR) 1960 [v. 37] no. 18, p. 48-54; Ptitsevodstvo (USSR) 1960 [v. 10] no. 12, p. 6-8; Vestnik Sel'skokhozyaistvennoi Nauki (USSR) 1960 [v. 5] no. 12, p. 1-9.

DESCRIPTORS: *Agriculture, *Agricultural machinery, Economics, *Seeds, Growth.

Contents:
Scientific achievements and leading experience should be put to use in agricultural production, by T. Koval'
Important reserves for reducing the net cost of production, by Yu. D. Kornilov
Development of seed growing and scientific problems involved.

Rozov, N. N.
PRINCIPLES OF REGIONAL SOIL SUBDIVISION FOR THE PURPOSE OF DEVELOPMENT OF THE RURAL ECONOMY (SOIL INSTITUTE OF THE ACADEMY OF SCIENCES OF CHINA) BY MA YUN-CHIH AND WEN CHEN-WANG: REVIEW OF ARTICLE (Printsipi Pochvennogo Rayonirovaniya dlya Tselei Razvitiya Sel'skogo Khozyaistva Pochvennyi Institut Akademii Nauk Kitaya). 10 July 61 [19]p. JPRS: 9576.
Order from OTS or SLA $1.60 61-27195

Trans. of #Pochvovedenie (USSR) 1959, no. 9, p. 118-123.

DESCRIPTORS: *Soils, Geography, Climatic factors, *Agriculture, Mountains, Deserts, Tropical regions, *Rural areas.

Plant Cultivation

Kononova, M. M.
SOIL ORGANIC MATTER, REV. ED. Nov 61, approx. 400p.
Order from PP $15.00

Trans. of unidentified Russian mono, rev. ed., n. p., 1960.

DESCRIPTORS: *Soils, *Organic compounds.

Mokrzecki, Zygmunt.
THE ACTIVITY OF THE INSTITUTE FOR FOREST PROTECTION AND ENTOMOLOGY AT SKIER NIEWICE 1922-23, tr. by E. Kolaczkowska. [Nov 61] [27]p. PL-480 Agr.
Order from OTS $0.50 60-21488

Trans. of Polish mono. Sprawozdanie z Dzialalnosci Zakladow Ochrony Lasu i Entomologii w Skierniewicach 1922-23, n. p. [1923, 32p.].

DESCRIPTORS: *Forestry, *Trees, *Insects, Poland, Scientific organizations, Research program administration

Prodan, M.
THEORETICAL DETERMINATION OF THE STATE OF EQUILIBRIUM IN THE SELECTION FOREST (Die Theoretische Bestimmung des Gleichgewichtszustandes im Plenterwalde). [1961] [29]p. 7 refs.
Order from SLA $2.60 61-20507

Trans. of Schweizerische Zeitschrift für [das] Forstwesen, 1949, v. 2, p. 81-99.

DESCRIPTORS: *Forestry, *Trees, Growth, Determination, Selection, Classification, Distribution theory, Quality control, Tables, Plants, Agriculture

Shaposhnikov, A. P.
THE GROWTH OF ANTIEROSIONAL FOREST PLANTINGS IN THE CENTRAL FOREST-STEPPE AND THEIR INFLUENCE ON CROPS (Rost i Vliyanie na Urozhai Protivoerozionnykh Lesnykh Nasazhdenii Tsentral'noi Lesostepi). [Dec 61] 10p. PL-480 Agr.
Order from OTS $0.50 60-51007

Trans. of [Vsesoyuznyi Nauchno-Issledovatel'skii Institut Agrolesomelioratsii]. Nauchnyi Otchet (USSR) 1941-42, p. 82-90.

DESCRIPTORS: *Erosion, *Forestry, Growth, *Soils, Pine, Grasses, Rye, *Plants.

Five years of observation at the Novosil' experimental gully station indicate that forest planting in worthless washout areas, besides representing a rational utilization of poor soils, can be of great value in raising the yield of the adjacent fields. The yield increases in the sheltered forest-edge zone reaches, in winter rye (grains), 37.5%; in oats (grains) 24.8%; in clover 39%. A yearly crop increase in other crops and especially in grasses was observed in the zone sheltered by the forest's edge. This was most noticeable in the unfavorable drought years.

ASTRONOMY

Orlov, Vladimir.
BUILDERS OF COSMIC SHIPS. 3 Oct 61 [11]p.
JPRS: 10401.
Order from OTS or SLA $1.60 61-28633

Trans. from Pravda [Moscow] (USSR) 1961, 27 Aug.

DESCRIPTORS: *Spaceships, Language, Synthesis, Communism, Propaganda, *Space flight.

According to the Bible, when man set to building the Tower of Babel, their tongues were confused, which disorganized the various groups of builders. Their punishment was no less heavy than Prometheus' chains. As the tower of modern science rises higher, the degree of specialization rises with it; the languages of its branches differ more and more, making it more difficult for the specialists to understand each other. The fruitful counter-current of synthesis, of a coordination of sciences, which is haphazard under capitalist conditions, is planned and intelligent in our country, based on intensive organizational work which has its roots in the philosopy of dialectical materialism This infinitely magnifies our strength. As if incarnate in the rocket itself is a peculiar syththetic turn of mind soaring unobstructed over interdepartmental barriers and the boundaries of scientific disciplines, as cosmonaut Titov did over the boundaries of countries and continents. Incarnate here is the human character capable of uniting men of different specialities and qualifications in a single creative fraternity -- more complex than an orchestra, because the orchestra is a union of musicians, alone. (Extracted)

BEHAVIORAL SCIENCES

Krushinskii, L. V.
ANIMAL BEHAVIOR: ITS NORMAL AND ABNORMAL DEVELOPMENT. Nov 61, 260p.
Order from CB $12.50

Trans. of mono. [Formirovanie Povedeniya Zhivotnykh v Norm i Patologii, Moscow, 1960].

DESCRIPTORS: *Animals, *Behavior, Growth, Psychology.

Sebardt, C.
BIOTECHNOLOGY: A NEGLECTED PRODUCTION FACTOR. Address delivered at the discussion meeting of the Association of [Swedish] Iron Works, 20 May 55. 1958 [14]p. 2 refs.
Order from SLA $1.60 61-18725

Trans. of [Jernkontoret, Stockholm. Annaler (Sweden) 1955, v. 139, no. 10, p. 805-816].
Another trans. is available from BISI $3 as BISI-956 [1960].

DESCRIPTORS: Labor, *Human engineering, Cybernetics, *Fatigue (Physiology), Muscles, *Machine shop practice, Motion, *Posture, Industrial medicine, *Industrial equipment, Diseases.

In the first paper a general survey is given of the importance of a detailed study of the workers positions and movements. Productivity will increase and the operators will be spared fatigue and permanent ailments if these questions are given proper attention. The second paper treats the subject of the workers' positions and movements from a physiological point of view. The human locomotive organs too often have

to adapt themselves to the machine instead of machines being adapted to the human organs. The third paper deals especially with back troubles and stresses the importance of corrective gymnastics. (Author)

Personnel and Training

THE COMMITTEE ON LENIN PREMIUMS IN THE FIELDS OF SCIENCE AND TECHNOLOGY AT THE USSR COUNCIL OF MINISTERS (Komitet po Leninskim Premiyam v Oblasti Nauki i Tekhniki pri Sovete Ministrov SSSR). 25 Feb 60 [6]p. AF 1419489.
Order from OTS or SLA $1.10 61-28355

Trans. from Izvestiya (USSR) 1960, 4 Feb, p. 3.

DESCRIPTORS: *Scientific personnel, *Engineering personnel, *Professional personnel, *Geophysicists, *Medical personnel, *Scientific organizations, *Research program administration, *Industrial research.

Popov, G. A.
METHODS TO DETERMINE REQUIREMENTS FOR PARAMEDICAL PERSONNEL AND PROSPECTS FOR THEIR TRAINING. 27 Nov 61 [19]p. JPRS: 11257.
Order from OTS or SLA $1.60 62-13510

Trans. of Sovetskoe Zdravookhranenie (USSR) 1961 [v. 20] no. 6, p. 58-66.

DESCRIPTORS: *Medical personnel, *Students, *Training, Dental personnel, *Recruiting, Sanitary engineering, *Public health, Hospitals, *Education.

BIOLOGICAL SCIENCES

Capraro, V.
THE ENERGY METABOLISM OF CARCINUS MAENAS IN RELATION TO THE Δ OF THE SURROUNDING MEDIUM AND TO THE TEMPERATURE (Metabolismo Energetico del Carcinus Maenas in Rapporto al dell'Ambiente e alla Temperature) tr. by A. N. Morris. 1953, 10p.
Available on loan from DI

Trans. of Stazione Zoologica, Naples, Pubblicazioni (Italy) [1933?] v. 18, no. 1, p. 80-85.

DESCRIPTORS: *Metabolism, *Crustacea, Temperature.

Anatomy and Physiology

Fliedner, Theodor, Sandkühler, Stefan, and Stodtmeister, Rudolf.
INVESTIGATIONS INTO THE BLOOD-VESSEL ARCHITECTURE OF THE BONE MARROW OF RATS. [1961] [13]p. (refs. 9 figs. omitted).
Order from SLA $1.60 61-20586

Trans. of Z[eitschrift] für Zellforschung [und Mikroskopische Anatomie] (Germany) 1956, v. 45, p. 328-338.

DESCRIPTORS: *Blood vessels, Anatomy, Rats, *Bone marrow, Blood volume, Blood circulation.

Konstantynovs'kyi, G. A.
CHARACTERISTICS OF THE INNERVATION OF THE PIA MATER OF THE HUMAN BRAIN IN ADVANCED AND OLD AGE (Osoblyvosti Innervatsiyi M'yakoyi Obolonky Holovnoho Mozku Lyudyny v Pokhylomu i Starechomu Vitsi). 14 June 61 [11]p. 16 refs.
JPRS: 9423.
Order from OTS or SLA $1.60 61-23561

Trans. of Fiziologichnyi Zhurnal (USSR) 1961, v. 7, no. 1, p. 113-119.

DESCRIPTORS: *Meninges, *Brain, *Aging, *Nerves.

The pia maters of 37 human cadavers, aged 50 to 84 years, were compared with those of middle aged persons. Death had occurred by trauma. Atrophic changes of the older age group were seen in the myelinated nerve fibers. The axis cylinder and the myelin sheath were thinner; sometimes the myelin was completely absent. The Schmidt-Lanterman notches were decreased. Changes in the peripheral nervous system were also found in the pia mater of this group. These changes increased with age, and involved greater numbers of myelinated nerve fibers. The non-myelinated fibers showed few such changes. In older persons, the degeneration products of nerve fibers remained in the adjacent tissues for a long time. Coagulation necrosis of a significant portion of the axis cylinders was found in persons 70 to 80 years. Changes in the terminal nerve structures were found more frequently in older persons. New terminal and elements which ramified into adjacent tissue were found in some persons over 80 years of age. These changes were not as frequent in the pia mater as in the nerve fibers. Such degenerative changes were absent in the younger aged group.

Skvortsov, A.A.
PERMEABILITEIT VAN DE INSECTENHUID VOOR CONTACT-INSECTICIDEN (Permeability of the skin of insects by contacting-insecticides). 14 p. 24 refs. MTWL: 448. (Text in Dutch).
Order from OTS or ETC $1.85 61-17055

Trans. of Uspekhi Sovremennoĭ Biologii (USSR) 1946, v. 21, no. 2, p. 249-256.

DESCRIPTORS: *Insects, *Skin, *Insecticides, Physiology.

Biochemistry

ACTA BIOCHIMICA POLONICA, 1961, VOL. 8, NO. 1. [Nov 61] 103p. PL-480 HEW.
Order from OTS $1.25 60-21560-1

Trans. of Acta Biochimica Polonica, 1961, v. 8, no. 1.

DESCRIPTORS: *Actin, Hydrolysis, *Phosphorus, Metabolism, *Moths, Temperature, *Pyrimidines, *Plants, Amino acids, *Cells (Biology), *Liver,

Enzymes, *Hydrolases, *Digestive system, *Esterases, *Proteins, *Amino acids, *Peptides, *Thiosulfates, Sulfates, *Animals, Quantitative analysis, Solubility, *Tissues, *Kidneys, *Glutathione, *Malic acid.

Contents:
The proteolytic activity of actin preparations, by W. Drabikowski
The effect of low temperature upon phosphorus metabolism in Galleria Mellonella larvae, by Ewa Lenartowicz
The conversion of orotic acid to pyrimidine derivatives in plant material, by J. Buchowicz and I. Reifer
The transaminase activity in isolated cell structures of normal rat liver, by T. Wilczok
Studies on hydrolases of digestive juices. VI. Esterases of canine intestinal juice, by J. Oleksy and others
Studies on lupin proteins. IV. N-terminal amino acids in conglutin β, by M. Wiewiorowski and J. Augustyniak
Further characteristics of cytoplasmic nucleopeptides from the guinea pig liver, by P. Szafranski and T. Golaszewski
The role of thiosulphate in the formation of sulphate in animal organism, by Miroslawa Weber and others
Quantitative investigations on the solubility of proteins extracted from tissues fixed with various chemical and physical methods, by K. Ostrowski and others
The influence of kidney homogenate upon the reaction between glutathione and malic acid, by S. Angielski and J. Rogulski
Includes resumes in Polish and Russian.

Danyleiko, V. I.
THE ECOLOGY OF SPACE FLIGHT (Do Pytannya pro Ekologiyu Kosmichnykh Pol'otiv). 17 June 61 [15]p. 84 refs. JPRS: 9419.
Order from OTS $0.50 61-31491

Trans. of Fiziologichnyi Zhurnal (USSR) 1961, v. 7, no. 1, p. 9-17.

DESCRIPTORS: Ecology, *Space flight *Conditioned reflex, *Motor reactions, Reasoning, Reaction time, Sensory perception, Water, Distillation plants, *Water supplies, Water filters, Ion exchange

Studies of the conditioned-reflex activity of subjects who had been kept for several days under solitary isolation, with restraint of the functions of the locomotor apparatus and reduction in the number and strength of exteroceptive stimuli, showed a certain extinction of earlier-elaborated conditioned reflexes and marked disturbances in internal inhibition. These disturbances, which are a consequence of changes in the inter-relationships in the processes of stimulation and inhibition and of a predominance of the inhibitory process in the cerebral cortex, may lead to a certain reduction in intellectual capacity. One variant of closed ecological system is proposed which provides for the regeneration of water contained in the urine by means of distillation and subsequent filtration through ion-exchange resins; the transformation of other excreta and the procuring of dietary products by means of mixed cultures of algae and fungi; and the procuring of animal protein by cultivating zooplankton and molluscs.

Minkh, A. A.
AERO-IONIZATION IN MEDICINE (Aeroionizatsiya v Meditsine). 27 Sep 61, 117p. 49 refs. JPRS: 10245.
Order from OTS $0.50 61-31621

Trans. of Akademiya Meditsinskikh Nauk SSSR. Vestnik, 1961 [v. 16] no. 7, p. 3-13.

DESCRIPTORS: *Air, Electrical properties, Medicine, Ions, Ionization, Radiation counters, *Electricity

A literature survey based mainly on Soviet sources.

Paris, R. and Delaveau, P.
STUDIES ON DROSERA SPP. ISOLATION OF PLUMBAGONE FROM D. AURICULATA BLACKH. EX PLANCH. AND RAMENTACEONE FROM D. RAMENTACEA BURCH. (Recherches sur les Droseras. Isolement de la Plumbagone du D. Auriculata Blackh. ex Planch. et de Ramentaceone du D. Ramentacea Burch.). [1961] 14p. 5 refs.
Order from SLA $1.60 61-20438

Trans. of Annales Pharmaceutiques Francaises, 1959, v. 17, no. 10/12, p. 585-592.

DESCRIPTORS: *Plants, *Chromatographic analysis, *Flavones, Quinones, Chemical analysis, Physiology, *Acetylcholines, *Histamines.

Botany

Nikai, S.
CAUSES AND PREVENTION OF MILDEW ON BAMBOO WARES. XII. TESTS ON A PILOT-PLANT SCALE FOR IMPREGNATING BAMBOO STEMS WITH A NA-PENTACHLOROPHENOLATE SOLUTION UNDER PRESSURE, PT. I. [1961] 8p.
Order from ATS $11.25 ATS-80N56J

Trans. of Hakko Kogaku Zasshi (Japan) 1960, v. 38, no. 3, p. 131-135.

DESCRIPTORS: *Bamboo, *Mildew, *Fungusproofing, Impregnation, Sodium compounds, Chlorides.

Pilet, Paul-Emile and Kobr, Michel.
A STUDY OF THE INHIBITION OF RADICLE GROWTH BY DL-TRYPTOPHANE (Etude de l'Inhibition de la Croissance Radiculaire par le DL-Tryptophane). [1961] [19]p. 32 refs.
Order from SLA $1.60 61-20441

Trans. of [Schweizerische Botanische Gesellschaft. Berichte] 1958, v. 68, p. 239-248.

DESCRIPTORS: Growth, *Metabolism inhibitors, *Tryptophane, Hormones, Growth substances, *Plants, Seeds, Biochemistry.

Timofeev, B.V. and Karimov, A.K.
VEGETABLE RESIDUES IN MINERAL OIL. 4 p.
MTWL: 667.
Order from OTS or ETC $1.40 61-17199

Trans. of Akademiya Nauk SSSR. Doklady, 1953, v. 92, no. 1, p. 151-152.

DESCRIPTORS: *Mineral Oils, *Spores, Algae.

Microbiology

Agatov, P.A.
OXYDATIE-REDUCTIE-POTENTIAAL VAN DE VIRULENTE GROEP VAN HET TABAKSMOZAIEK-VIRUS (Oxidation-reduction potential of the virulent group of the tabacco mozaic virus). 6 p. 8 refs.
MTWL: 450. (Text in Dutch)..
Order from OTS or ETC $1.55 61-17051

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 72, no. 1, p. 145-148.

DESCRIPTORS: *Oxidation-Reduction reaction, *Tobacco mosaic virus.

Gorodskaya, O.S.
EEN NIEUWE METHODE TOT ZUIVERING VAN HET TABAKSMOZAIEKVIRUS) New method of purifying tobacco mosaic virus). 5 p. 4 refs. MTWL: 505. (Text in Dutch).
Order from OTS or ETC $1.55 61-17181

Trans. of Biokhimiya (USSR), 1950, v. 15, no.6, p. 507-508.

DESCRIPTORS: *Tobacco mosaic virus, Purification, Electrodialysis, Acridines.

Ratgauz, L. G. and Danilov, A. I.
WORK OF THE DEPARTMENT OF HYGIENE, MICROBIOLOGY AND EPIDEMIOLOGY OF THE ACADEMY OF MEDICAL SCIENCES USSR (FEB 1960-61) (O Rabote Otdeleniya Gigieny, Mikrobiologii i Epidemiologii AMN SSSR). 27 Sep 61, 21p.
JPRS: 10249.
Order from OTS $0.75 61-31623

Trans. of Akademiya Meditsinskikh Nauk SSSR. Vestnik, 1961 [v. 16] no. 7, p. 72-81.

DESCRIPTORS: *Microbiology, Epidemiology, Public health, *Scientific research.

Ryzhkov, V.L., Smirnov, V.A., and Gorodskaya, O.S.
DE INVLOED VAN SOMMIGE KLEURSTOFFEN OP HET VIRUSNUCLEOPROTEIDE VAN DE TABAKSMOZAIEKZIEKTE (Action of dyes on the virus nucleoprotein of tobacco mosaic disease). 13 p. 14 refs.
MTWL: 509. (Text in Dutch).
Order from OTS or ETC $1.55 61-17175

Trans. of Biokhimiya (USSR), 1950, v. 15, p.222-229. no. 3.
DESCRIPTORS: *Tobacco mosaic virus, Proteins, Nucleoproteins, Dyes, Hydrogen ion concentration.

Neurology and Psychiatry

Malis, G. Yu.
RESEARCH ON THE ETIOLOGY OF SCHIZOPHRENIA. Nov 61, 220p.
Order from CB $9.50

Trans. of mono. [Etiologii Shizo Frenii, Moscow, 1960, 151p.].

DESCRIPTORS: Scientific research, *Psychoses, *Etiology, Mental diseases.

Pevsner, M. S.
OLIGOPHRENIA: MENTAL DEFICIENCY IN CHILDREN. Nov 61, approx. 408p.
Order from CB $15.00

Trans. of mono. [Dety-Oligophreny, Moscow, 1960, 485p.].

DESCRIPTORS: *Children, Intelligibility, Scientific research, *Abnormal psychology, *Mental deficiency

Pathology

MILITARY-MEDICAL JOURNAL, 1961, NO. 6, 5 Oct 61 [168]p. JPRS: 10328.
Order from OTS or SLA $12.00 61-28777

Trans. of Voenno-Meditsinskii Zhurnal (USSR) 1961, no. 6, p. 3-97.

DESCRIPTORS: Communists, Labor, *Combat, *Military medicine, *Hospitals, Identification, Diagnosis, Admittance, *Bullet wounds, *Excision, Wounds, Tissues (Biology), *Penicillin, Antibiotics, Therapy, *Radiation sickness, *Atomic bomb explosions, Body temperature, *Radon, Resistance *Food, Contamination, *Suppurative infections, *Disinfectants, Formaldehyde, Chlorine, Nervous system, Beta particles, *Lactic acid, *Ethers, *High altitude, Flight, *Respiration, Pressure, Ships, Ventilation, *Sanitation, *Anesthesia, Training, *First aid kits, Literature, *Biological warfare, Psychology, Scientific organizations.

Contents:
Develop the movement toward Communist labor
Professor I. S. Kolesnikov, Major General of the Medical Service, laureate of the Lenin Prize
Some problems of current importance in military field therapy, by N. S. Molchanov
Organization of the work of the receiving-sorting department of an internal medical hospital, by D. B. Marshalkovich and others
Some problems of the treatment of gunshot wounds, by I. S. Kolesnikov and N. V. Putov
Delayed débridement of infected soft tissue wounds with the use of bicillin in those affected by penetrating radiation, by G. N. Tsybulyak
Antibiotic therapy in radiation sickness, by G. A. Vasil'ev

The injurious effect of light radiation of an atomic bomb explosion, by A. A. Gukasyan
Combined effect of whole body radiation and different temperatures on the body, by P. A. Milonov
Some problems of current importance in radon therapy, by V. V. Rozin
One of the factors of natural resistance on the body, by A. A. Sinitskin and A. M. Yakovlev
Case of staphylococcal food intoxication, by B. F. Sidorenko
The disinfection of premises by the method of chemical sublimation of formaldehyde and chlorine, by F. T. Korovin and others
A new disinfectant, beta-propiolactone, by I. S. Ioffe and V. T. Osipyan
Some changes in higher nervous activity during acceleration, by V. I. Babushkin and others
Change in pulmonary ventilation during respiration under increased pressure at high altitudes, by N. A. Agadzhanyan and others
Problem of the routine of operation of ship's ventilation, by E. P. Sergeev and others
Method of automatic all-purpose inhalation anesthesia and an apparatus for giving it, by Yu. N. Shanin
Experience of sanitary training of personnel, by V. I. Prokopenko
Method of using the first aid packet, by G. I. Serdyukov
A page from the war years
Abstracts
This must not happen again, by F. Kamenski
Problems of bacteriological defense, by G. I. Labezov and G. G. Gromozdov
The "psychology of flight work", by Yu. A. Petrov
The Vladivostok Naval Hospital is 100 years old, by A. I. Khakham
Conference of physicians of the Kiev military district, by P. P. Gnatko and N. M. Soldatov
At the internal medical section of the scientific medical council of the VMU MO, by V. Kh Chireikin
Conference of physicians of the Crimean group of sanatoria of the Ministry of Defense, by B. V. Nikol'skii

Dynaburg, G. D.
CONCERNING THE PROBLEM OF THE PATHOGENESIS OF DISEASES OF INTERNAL ORGANS DURING CEREBRAL INJURIES. 26 Oct 61 [11]p. JPRS: 10643.
Order from OTS or SLA $1.60 62-13022

Trans. of Fiziologichnyi Zhurnal (USSR) 1961, v. 7, no. 3, p. 362-368.

DESCRIPTORS: Pathology, *Tissues (Biology), Nervous system, *Traumatic shock, Diseases, Collagen, *Brain, *Cerebral cortex, *Liver, Hemorrhage, *Lungs, Nervous system, Pneumonia, Reticulo-endothelial system, *Skin, *Muscles, Epilepsy, Clostridium tetani, *Cells (Biology)

Changes in the acellular connective tissues (ground substance) in the skin, muscle and internal organs were demonstrated to vary with the site of the brain lesion. The sensory-motor area of the cortex and the mid-brain were stimulated and destroyed in dogs and rabbits. Stimulation produced thickening of the argyrophilic substance of the internal organs. The sensory-motor stimulation produced changes in the skin and muscles which were localized in the contralateral extremities and half of the trunk. In the internal organs these changes were more marked contralaterally. Destruction of the sensory-motor area produced a thinning of the argyrophilic substance on the contralateral side. Diffuse and irregular changes occurred in all organs when the midbrain was destroyed. In experimental tetanus, the internal organs showed a thickening of the argyrophilic substance, most marked in the liver. Human patients dying of status epilepticus had thickening of the argyrophilic substance in the internal organs. In hemiplegics with hemorrhage into the brain, there was marked thinning of the argyrophilic substance on the side of the paralysis.

Gulyasov, M. G.
PSYCHIC DISTURBANCES IN RABIES: FINAL CHAPTER AND GENERAL CONCLUSIONS. 26 Sep 61, 10p. JPRS: 10221.
Order from OTS $0.50* 61-31619

Trans. of mono. Psikhicheskie Narusheniya pri Beshenstve, Tashkent, 1959, chap. 5, p. 216-223.

DESCRIPTORS: *Psychoses, *Rabies, Perception, Auditory perception, Visual perception, Neurology, Spasms.

A study of the disease histories of 100 patients and a clinico-anatomical study of 14 observations from the first hour of admission up to the patient's death, autopsy, and pathohistological examination, showed that the period of the most pronounced manifestation of the disease, which usually coincides with the hospitalization of the patient, is characterized by psychopathological symptomatics wherein, together with previously described vegetative symptoms (aero-hydro-acue-photo-phobia), there come to the fore considerable disturbances of consciousness, of perception of the environmental medium, and affective volitional disturbances combined with massive, specific neurological disturbances (spasm, paresis, and paralysis). A characteristic peculiarity of consciousness disturbances is their oscillation, intermittent episodes of delirium with bright periods, transition of delirious states into amentive ones, and at the terminal stage temporarily lucid states of the agonic type. Auditory, olfactory, general sensory, and even gustatory hallucinations are sometimes observed. The younger the organism, the less prominent are the hallucinatory and psychopathological manifestations and the more marked the neurological symptomatics as well as speech disorders. The depth and diversity of manifestations of psychic disturbances in rabies patients are determined by the quality, force, and extent of disorders of the interrelation between the first and second signal system and the cortico- visceral relations.

Leriche, René.
ARTERIAL PAINS FROM DISTURBED VASOMOTORICITY. [1961] 40p.
Order from SLA $3.60 61-20250

Trans. of French language mono. The Surgery of Pain, 3d ed, n. p., 1949, chap. 6, p. 134-179.

DESCRIPTORS: *Pain, *Arteries, *Veins, Reflexes, Embolism, Thrombosis, Headache, Surgery, Therapy, *Autonomic nervous system, Nerves.

[Leriche, René].
CAUSALGIA, ITS SIGNIFICANCE AND TREATMENT. [1961] 21p.
Order from SLA $2.60 61-20236

Trans. of French language mono. The Surgery of Pain, 3d ed., n. p., 1949, chap. 11, p. 297-320.

DESCRIPTORS: *Pain, *Injuries, Autonomic nervous system, Surgery, *Therapy, Diagnosis, Surgical trauma, *Nerves.

Leriche, René.
PAIN IN ANGINA PECTORIS. [1961] 37p.
Order from SLA $3.60 61-20238

Trans. of French language mono. The Surgery of Pain, 3d ed., n. p., 1949, chap. 14, p. 359-398.

DESCRIPTORS: *Pain, *Angina pectoris, Procain, Physiology, *Heart, Reflexes, *Surgery, Autonomic nervous system, *Ganglia, Therapy, Procaine.

Leriche, René.
POSTTRAUMATIC DIFFUSING ALGIAS. [1961] 12p.
Order from SLA $1.60 61-20237

Trans. of French language mono. The Surgery of Pain, 3d ed., n. p., 1949, chap. 12, p. 320-331.

DESCRIPTORS: *Pain, *Diagnosis, *Injuries, *Hands, Autonomic vervous system, Surgery, *Nerves, Ganglia, Therapy, Procaine, Anesthetics.

Mironov, N. P., Tinker, I. S. and others.
CONTEMPORARY STATUS OF THE PLAGUE FOCUS IN THE NORTH WESTERN CASPIAN SEA REGION AND PROBLEMS ON ITS FURTHER STUDY (Sovremennoe Sostoyanie Chumnogo Ochaga Severo-Zapadnogo Prikaspiya i Zadachi po Ego Dal'neishemu Izucheniyu). [1961] 18p. Trans. V-1717.
Order from OTS or SLA $1.60 61-28155

Trans. of Elistinskaya Protivochumnaya Stantsiya. Sbornik Nauchnykh Rabot (USSR) 1959 [v. 1] no. 1, p. 19-29.

DESCRIPTORS: *Plague, Caspian Sea, Rats, Man, *Epidemiology, Transmission, Control, *Fleas, *Rodents, Bacteria, Parasites, Ecology

Panisset, Maurice, Lapierre, Jeanne, and Mankievicz, Edith.
ON THE METHOD OF ACTION OF AN IMMUNITY LIPOIDIC ADJUVANT: VARIATIONS OF CHOLESTEROLEMIA DURING IMMUNIZATION. [1961] 7p. (refs. 4 tables omitted).
Order from SLA $1.10 61-20734

Trans of [Revue de Pathologie Gènèrale et Comparèe] (France) [1951] v. 51, no. 629, p. 411-414.

DESCRIPTORS: *Immunization, *Pharmacology, *Cholesterol, *Lipids, Antigens, Antitoxins, Antibodies, Penicillin.

THE NEW 1960 ANTIBIOTICS IN GENERAL PATHOLOGY. [1961] 10p.
Order from SLA $1.10 61-20571

Trans. of Gazette Medicale de France, 1960, v. 67, Dec, p. 2699-2700 and 2703.

DESCRIPTORS: *Antibiotics, *Drugs, *Penicillin, Toxicity, Synthesis, Infections, *Suppurative infections, Therapy, Tetracyclines

Topics discussed are the new penicillins, spontine, and dimethylchlortetracycline.

Corral Saleta, J. M. de, Penhos, J. C., and Cardeza, A. F.
DIABETOGENIC AND ANTIDIABETOGENIC ACTION OF TRIAMCINOLONE AND OF DEXAMETASONE. [1961] 2 p.
Order from SLA $1.10 61-20578

Trans. of Soc[iété de] Biol[ogie et de ses Filiales]. C[omptes] R[endus des Seances] (France) 1960, v. 154, no. 12, p. 2371-2372.

DESCRIPTORS: *Diabetes, Hypoglycemia, Etiology, *Steriods, Corticosteroids, *Adrenal cortical extract, Hydroxides, Drugs.

Lojodice, G. and Bertolotti, E.
EXPERIENCES WITH A RECENT ANABOLIC STEROID: RESULTS IN THE TREATMENT OF INFANTILE DYSTROPHIES; CONSIDERATIONS ON DOSAGE; CYTOLOGICAL STUDIES ON THE VAGINAL MUCOSA (La Nostra Esperienza su un Recente Steroide Anabolizzante: Risultati nel Trattamento delle Distrofie Infantili; Considerazioni sulla Posologia; Ricerche Citologiche sulla Mucosa Vaginale). [1961] [10]p.
Order from SLA $1.10 61-20435

Trans. of Minerva Medica (Italy) 1961, v. 52, 3 Feb, p. 379-382.

DESCRIPTORS: Growth, *Testosterone, Bone, *Mucous membranes, *Androgens, Growth substances, *Reproductive system, *Children, Metabolism, *Steroids.
A synthetic preparation belonging to the group of anabolic steroid hormones, 1-dehydro-17-alpha-methyl testosterone, recently put on the market with the name of Dianabol, was given perorally to 72 children of both sexes and of various ages in different daily dosages (5 mg/kg daily, 3 mg/kg daily, 2 mg/kg on alternate days, 0.2 mg/kg daily) to demonstrate the degree of anabolic activity of the preparation, the degree of its androgenic action and also its prophylactic action on physiological osteoporosis in children. The preparation showed a marked anabolic activity in children, whereas its androgenic action was very mild in comparison to similar preparations. Clinical changes of the virilization type appear only if given for many weeks in doses considerably

higher than those in which the drug is commonly used (0.2 mg/kg/day). In the doses mentioned, a good effect was noted on weight gain and interesting results for the prophylaxis and treatment of the so-called physiological osteoporosis of infancy. In doses of 0.2 mg/kg/day, the changes in the vaginal mucosa were mild and delayed.

Siegenthaler, W., Brovelli, L. and others.
EXPERIENCES WITH PREPARATIONS: CLINICAL AND EXPERIMENTAL INVESTIGATIONS WITH DEMETHYLCHLORTETRACYCLINE, A NEW WIDE-SPECTRUM ANTIBIOTIC. [1961] 17p. (4figs. refs. omitted)
Order from SLA $1.60 61-20663

Trans. of Schweiz[erische] Med[izinische] W[ochen]-schr[ift] 1960, v. 90, no. 46, p. 1315-1320.

DESCRIPTORS: *Tetracyclines, *Antibiotics, *Declomycin, Toxicity, Drugs.

Radiobiology

Bal'sevich, S. and Trilisser, T.
TSIGEROL. 30 Aug 61, 1p. AID rept. 61-129; AD-263 464.
Order from OTS or SLA $1.10 61-28476

Abstract trans. from Meditsinskii Rabotnik (USSR) 1961 [v. 24, no. 63] p. 3.

DESCRIPTORS: *Radioprotective drugs.

"Tsigerol" (USSR) is a synthetic transparent yellow liquid, soluble in organic solvents, oils, and fats. (The chemical composition of the product is not given.) Tsigerol possesses the ability to stimulate the regeneration of tissues and is widely used in treating weakly granulating lesions, trophic ulcers, burns, and radiation lesions. It also has a marked bacteriostatic effect. The prospect of using tsigerol in the prevention of radiation reactions occurring in radiation therapy is very promising. When applied to the irradiated area 3-5 times daily, tsigerol delays the formation of radiation lesions and alleviates the lesions formed, thus permitting increased dosages of X-rays or gamma rays for radiation therapy. (Extracted)

D'yakova, A. M.
CHANGES IN LIPOPROTEINS OF TUMORS UNDER THE EFFECT OF GAMMA RAYS. 13 Oct 61 [16]p. 15 refs. JPRS: 10440.
Order from OTS or SLA $1.60 61-28882

Trans. of Ukrayins'kyi Biokhimichnyi Zhurnal (USSR) 1961, v. 33, no. 3, p. 352-361.

DESCRIPTORS: *Neoplasms, *Lipoproteins, *Gamma rays, Nucleoproteins, Metabolism, *Radiation effects, Albumins.

Upon gamma-irradiation of M-1 rat sarcomas, the amount of lipoids increases in the lipoalbumins and liponucleoproteins of the tumors. The increased lipoid content is caused in liposlbumins by the enhancement of the quantity of cholesterol and phosphatides, and in liponucleoproteins -- mainly by the increase of cholesterin. These changes in the lipoproteins of tumors take place after irradiation with 900 r, or 2,500 r doses. An increase of the lipoid content of the nucleoproteins takes place only in cases of retardation of the tumor growth. The lipoid content in albumins increases after irradiation, independently of the rate of tumor growth. (Author)

Fateeva, M. N., Klimov, V. S. and others.
ACTION DU ^{137}Cs SUR L'ORGANISME HUMAIN [Action of Cs^{137} On the Human Organism] tr. by Mme. Masour. 22 Sep 61 [20]p. 2 refs. CEA Trans. no. R 1399 (text in French).
Order from OTS or SLA $1.60 62-13814

Trans. in French of Med[itsinskaya] Radiol[ogiya] (USSR) 1960, v. t, no. 7, p. 14-19.
A trans. in English is available from OTS $5.00 in 60-41516, 26 Oct 60, 295p.

DESCRIPTORS: Radiobiology, *Radiation sickness, *Radiation counters, Cesium, Medical examination, Dosimeters, *Radiation tolerance, Radioactive isotopes.

Leipunskii, O. I.
GAMMA-RADIATION OF AN ATOMIC EXPLOSION. Sep 61, 155p. 27 refs.
Order from OTS $2.75 AEC-tr-4516

Trans. of mono. Gamma-Izluchenie Atomnogo Vzryva, Moscow, 1959.

DESCRIPTORS: *Gamma rays, Radiation sickness, *Atomic bomb explosions, Dose rate, Shock waves, Propagation, Radiation effects, Diffusion theory, Shielding, Dosimeters, Nuclear physics, Radiochemistry, Tables, Nuclear reactions, Radioactivity

The book is devoted to the physics of the action of gamma radiation in atomic explosions. The dose of gamma radiation is estimated and the physical factors that influence its magnitude are analyzed. The analysis is based on the results of the theory of multiple scattering (diffusion) of gamma quanta. A new factor in the theory is the influence of the shock wave on the propagation of gamma radiation. The calculations of the doses are referred to explosion energies of 20 megatons. This figure has no relation whatever to the present state of the art, and is chosen arbitrarily. The problems that arise in the analysis of the physical picture of the action of the gamma radiation due to atomic explosion are closely related to problems involving protection against gamma radiation, encountered in the atomic industry. Therefore the book can be useful for a wide circle of scientific workers and engineers interested in problems of shielding and the dosimetry. (Author)

Marei, A. N., Saurov, M. M., and Lebedeva, G. D.
PROBLÈMES DE LA TRANSMISSION DU STRONTIUM RADIOACTIF LE LONG D'UNE CHAINE DE NUTRITION PARTANT D'UN RESERVOIR D'EAU OUVERT ET ABOUTISSANT À L'ORGANISME HUMAIN [On Transmission of Radiostrontium by Nutritional Chain From the Open Water Reservoir in the Human Ogranism] tr. by Mme. Masour. 10 Oct 61 [22]p. 7 refs. CEA Trans. no. R 1416 (text in French).
Order from OTS or SLA $2.60 62-13828

Trans. in French of Meditsin[skaya] Radiol[ogiya] (USSR) 1958, v. 3, no. 1, p. 69-76.
A trans. in English is available from OTS $2.25 in 59-11127, 26 Nov 58, 95p.

DESCRIPTORS: *Strontium, *Radioactivity, *Radiation tolerance, Food, *Water supplies, Plants, Animals, Man, Aquatic animals.

Nuzhdin, N. I., Pomerantseva, M. D., and Kuznetsova, N. N.
INCREASED RESISTANCE OF ANIMALS TO THE EFFECT OF IONIZED IRRADIATION AS RESULT OF PRELIMINARY ROENTGEN IRRADIATION (Povyshenie Ustoichivosti Zhivotnykh k Vozdeistviyu Ioniziruyushchei Radiatsii v Resultate Predvaritel'nogo Rentgenovskogo Oblucheniya). [1961] 2p.
Order from OTS or SLA $1.10 61-28660

Abstract trans. of Akad[emiya] Nauk SSSR. Doklady [1958] v. 120, no. 6, p. 1359-1361.

DESCRIPTORS: *Radiation effects, *Animals, *Radiological dosage, Radiation sickness, *X-rays.

Petrov, I. R., Il'inskaya, I. V., and Astakhova, T. N.
THE USE OF BONE MARROW TRANSPLANTATION IN THE COMPREHENSIVE TREATMENT OF RADIATION SICKNESS (Primenenie Transplantatsii Kostnogo Mozga v Kompleksnom Lechenii Luchevoi Bolezni). 27 Sep 61, 18p. 43 refs. JPRS: 10248.
Order from OTS $0.50 61-31622

Trans. of Akademiya Meditsinskikh Nauk SSSR. Vestnik, 1961 [v. 16] no. 7, p. 63-71.

DESCRIPTORS: *Radiation sickness, *Bone marrow, *Transplantation, Therapy, X-rays, Blood, Traumatic shock.

Transplantation of a freshly-prepared suspension of homologous bone marrow cells increases the life spans of animals irradiated with a lethal dose of X-rays. The bone marrow transplantation increases the effectiveness of comprehensive therapy in radiation sickness, providing comparatively rapid normalization of the morphologic composition of the peripheral blood and bone marrow. Under the influence of intramedullary transplantation of bone marrow normalization of bone marrow hematopoiesis and of the morphologic composition of the bone marrow occurs more rapidly than after intravenous transplantation of it. A good therapeutic effect from the use of comprehensive therapy, including bone marrow transplantation, is observed both in uncomplicated radiation sickness and in radiation sickness complicated by blood loss and traumatic shock. On the basis of the results of an investigation of the morphologic composition of the peripheral blood and bone marrow the possibility is assumed of tissue acceptance of bone marrow cells, the transplantation of which was accomplished against the background of use of comprehensive therapy of radiation sickness. (Author)

Surgery

Burmistrov, V. M., Medvedev, P. M., and Zaitseva, K. K.
SKIN HOMOPLASTY IN THE BURNED (Kozhnaya Gomoplastika u Obozzhennykh). 13 Sep 61 [9]p. (2 figs. omitted) 18 refs. JPRS: 10139.
Order from OTS $0.50 61-31607

Trans. of Vestnik Khirurgii (USSR) 1961, v. 86, no. 6, p. 74-79.

DESCRIPTORS: *Burns, Surgery, *Transplantation, *Skin, Tissues (Biology), Growth, Therapy.

Fresh cadaver skin was transplanted to burned areas of 39 patients. Skin from relatives or volunteers was transplanted to burns in 11 patients. The transplants taken from living people regardless of blood type usually took well, and lived longer than cadaver skin. In some cases these transplants did not differ from autotransplants for 2 or 3 weeks. The grafts of fresh cadaver skin and autotransplants produced similiar results. It was concluded that skin taken from living donors has greater viability than fresh cadaver skin. The methods used in taking the skin transplants and preserving the cadaver transplants are given. Observations on the macroscopic and microscopic changes during the course of transplant growth are also given. (See also 61-27050)

Kubanyi, E.
THE PREVENTION OF RECENT ADHESIONS, LEADING TO INTESTINAL OBSTRUCTION BY MEANS OF TRANSPLANTATION OF STERILE AMNION, STORED AT LOW TEMPERATURE (Verhinderung von Neuerlichen, zu Ileus Führenden Adhäsionen durch Transplantation von Sterilem und durch Tiefkühlung Aufbewahreten Amnion). [1961] 7p. 2 refs.
Order from SLA $1.10 61-18728

Trans. of Zentralblatt für Chirurgie (East Germany) 1955, v. 80, p. 189-194.

DESCRIPTORS: *Adhesions (Medical), Intestine, *Transplantation, Obturation *Fetal membranes.

Lidskii, A. T.
TRANSPLANTATIONS AND REPLACEMENTS OF TISSUES AND ORGANS, BY A. N. FILATOV, YU. B. BERINGER AND OTHERS: BOOK REVIEW. 25 Oct 61 [9]p. JPRS: 10659.
Order from OTS or SLA $1.10 62-13021

Trans. of Khirurgiya (USSR) 1961 [v. 37] no. 7, p. 145-147 (review of mono., pub. Moscow, 1960)

DESCRIPTORS: Textbooks, *Transplantation, *Surgery, *Tissues (Biology), Growth, Bone, Skin, Blood vessels

CHEMISTRY

JOURNAL OF APPLIED CHEMISTRY, 1942, VOL. 15, NO. 6: [TABLE OF CONTENTS] AND SELECTED ABSTRACTS. [1961] 12p. 59 refs.
Order from OTS or SLA $1.60 61-20337

Abstract trans. of Zhurnal Prikladnoi Khimii (USSR) 1942, v. 15, no. 6, p. 371-410.
#Complete translations of p. 373-405 are available separately.

DESCRIPTORS: Chemistry, Abstracting, *Synthetic rubber, *Plastics, *Synthetic fibers, Synthesis, *Anilines,

Contents:
Twenty-five years after the Great Socialist October Revolution (editorial)
#Synthetic rubber industry during the quarter century of Soviet regime, by N. I. Smirnov
#Development of the technology of plastics in USSR, by S. N. Ushakov
#Progress of the chemistry and the industry of synthetic fiber under the Stalin five-year plans, by S. N. Danilov
One hundred years after synthesis of aniline, by A. E. Porai-Koshits.

PROGRESS OF CHEMISTRY, 1941, VOL. 10, NO. 1: [TABLE OF CONTENTS] AND SELECTED ABSTRACT. [1961] 3p. 15 refs.
Order from OTS or SLA $1.10 61-20359

Abstract trans. of Uspekhi Khimii (USSR) 1941, v. 10, no. 1, p. 1-5.

DESCRIPTORS: Chemistry, Abstracting, *Oxidation, *Carbon compounds, *Monoxides.

Dolgov, B. N. and Kuchumova, N. A.
OVER DE ACTIVITEIT VAN ALUMINIUMCHLORIDE, VERKREGEN VOLGENS DE METHODE VAN RADZIVANOVSKIĬ. 1. INVLOED VAN $ALCL_3$, BEREID VOLGENS RADZIVANOVSKIĬ, OP DE REACTIE $C_6H_6 + C_2H_5Br$ (The activity of aluminum chloride prepared by the method of Radzivanovskiĭ. 1. Action of aluminum chloride, prepared according to Radzivanovskiĭ, on the reaction of benzene with ethyl bromide). 10 p. 12 refs. MTWL: 345. (Text in Dutch).
Order from OTS or ETC $1.55 61-17218

Trans. of Zhurnal Obshcheĭ Khimii (USSR) 1950, v. 20, no. 3, p. 445-449.

DESCRIPTORS: *Aluminum compounds, *Chlorides, Preparation, Benzenes, Ethanes, Bromides.

Marov, I. N., Belyaeva, V. K. and others.
CHROMATOGRAPHIC SEPARATION OF HAFNIUM AND ZIRCONIUM. [1961] 6p. 4 refs.
Order from RIS $10.00 RIS K-53

Trans. of Zhur[nal] Neorg[anicheskoi] Khimii (USSR) 1960, v. 5, p. 2644-2647.

DESCRIPTORS: *Hafnium, *Zirconium, Separation, Chromatographic analysis.

Nagiev, M. F., Karamzin, P. V., and Stefanskaya, T. G.
DEVELOPMENT OF THE THEORY OF RECIRCULATION PROCESSES IN CHEMICAL TECHNOLOGY. [1961] 8p.
Order from ATS $8.85 ATS-66N56R

Trans. of Akad[emiya] Nauk Azerbaidzhan[skoi] SSR [Baku]. Doklady, 1961, v. 17, no. 6, p. 471-477.

DESCRIPTORS: *Chemistry, Theory.

Analytical Chemistry

Atvazov, B.V. and Vyakhirev, D.A.
SEPARATION OF A MIXTURE OF THE SIMPLEST HYDROCARBONS BY MEANS OF CHROMATHERMOGRAPHY. 12 p. 2 refs. MTWL: 632.
Order from OTS or ETC $1.85 61-17204

Trans. of Zhurnal Prikladnoĭ Khimii (USSR) 1953, v. 26, no. 5, p. 505-511.

DESCRIPTORS: *Chromatographic analysis, Heat, *Hydrocarbons, Silicon compounds, Dioxides.

Bartfai, J.
DETERMINATION OF FERMENTATION CITRIC ACID. [1961] 4p. 3 refs.
Order from SLA $1.10 61-20492

Trans. of Magyar Kem[ikusok] Lapja (Hungary) 1960, v. 15 [no. 12] p. 566-567.

DESCRIPTORS: *Citric acids, Determination, Chloroform, Sulfuric acid, Acetic acids

Analyses show that in the case of the pantabromoacetone method both shaking and elution will result in only 90% recovery of the citric acid whereas by elution with chloroform 95-96% of the added material can be recovered. The differences between the individual analyses are smaller in case of elution with chloroform than in the case of the methods applying petrolether, and, in agreement with this the square of the error of the mean values is also the smallest in case of the elution with chloroform. (Author)

Dragunov, S.S.
VERSNELDE METHODES TER BEPALING VAN DE FUNCTIONELE GROEPEN IN HUMINEZUREN (Accelerated methods for the determination of functional groups in humic acid). 8 p. MTWL: 542. (Text in Dutch).
Order from OTS or ETC $1.55 61-17134

Trans. of Torfyanaya Promyshlennost' (USSR) 1949, v. 26, no. 8, p. 23-25.

DESCRIPTORS: *Carboxylic acids, *Chemical analysis Determination.

Gal'pern, G.D. and Musaev, I.A.
ALGEMENE GRONDSLAGEN VAN DE REFRACTOMETRISCHE ELEMENTAIRANALYSE (RINGANALYSE) VAN VERZADIGDE KOOLWATERSTOFFEN (General basis of refractometric elementary (ring) analysis of saturated hydrocarbons). 15 p. 12 refs. MTWL: 506. (Text in Dutch).
Order from OTS or ETC $1.55 61-17182

Trans. of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1949, v. 4, p. 542-551.

DESCRIPTORS: *Hydrocarbons, Petroleum, *Chemical analysis, *Refractive index density.

Götz, A.
A RAPID METHOD FOR DETERMINING OXYGEN IN ORGANIC SUBSTANCES. [1961] 6p. 10 refs.
Order from RIS $12.00 RIS S-2121

Trans. of Zeitschrift fur Analytische Chemie (West Germany) 1960, v. 181, 5 July, p. 92-100.

DESCRIPTORS: *Organic compounds, *Oxygen, Determination.

Irlin, A.L. and Bruns, B.P.
UNIVERSELE SEMIMICRO-DESTILLATIEKOLOM VOOR LABORATORIUM GEBRUIK (Universal laboratory semimicro distillation column). 9 p. 9 refs. MTWL: 548. (Text in Dutch).
Order from OTS or ETC $1.55 61-17140

Trans. of Zhurnal Analiticheskoĭ Khimii (USSR) 1950, v. 5, p. 44-47.

DESCRIPTORS: *Distilling plants, *Microanalysis, Fractionation.

Khmel'nitskii, R. A., Zimina, K. I., and Polyakova, A. A.
A MASS-SPECTROMETRIC METHOD FOR THE ANALYSIS OF GASOLINES. [1961] 8p.
Order from ATS $11.40 ATS-54N56R

Trans. of Khim[iya] i Tekhnol[ogiya] Topliv i Masel (USSR) 1961, v. 6, no. 6, p. 55-60.

DESCRIPTORS: *Gasoline, Spectrographic analysis, *Mass spectrometers, Chemical analysis.

Kiprianov, A.I. and Sych, E.D.
QUANTITATIEVE BEPALING VAN DE MONO- EN DISULFONZUREN VAN BENZEEN (Determination of benzene-mono- and disulfonic acids). 8 p. 1 ref. MTWL: 530. (Text in Dutch).
Order from OTS or ETC $1.55 61-17162

Trans. of Zavodskaya Laboratoriya (USSR) 1934, v. 3, p. 623-625.

DESCRIPTORS: *Sulfonic acids, *Benzene derivatives, Determination, Chemical analysis.

Konstantinova-Shlezinger, M.A. and Gorbacheva, N.A.
BIJDRAGE TOT DE THEORIE DER CHROMATOGRAPHISCHE ANALYSE (Theory of chromatographic analysis). 14 p. 4 refs. MTWL: 571. (Text in Dutch).
Order from OTS or ETC $1.85 61-17103

Trans. of Zhurnal Analiticheskoĭ Khimii (USSR) 1948, v. 3, p. 213-219.

DESCRIPTORS: *Chromatographic Analysis, Organic Compounds, Fluorescence, Theory.

Korshun, M. O. and Chumachenko, M. N.
RAPID METHODS FOR MICROELEMENTARY ANALYSIS. SIMULTANEOUS DETERMINATION OF ELEMENTS BY DECOMPOSITION OF ORGANIC SUBSTANCES THROUGH HEATING WITH METALLIC POTASSIUM. 6p. 8 refs. MTWL: 753.
Order from OTS or ETC $1.55 61-17262

Trans. of Akademiya Nauk SSSR. Doklady, 1954, v. 99, no. 5, p. 769-771.

DESCRIPTORS: *Microanalysis, *Organic compounds, Decomposition, Heating, Potassium, Chemical elements, Determination.

Miller, A.D.
POTENTIOMETRISCHE BEPALING VAN SULFIET, THIOSULFAAT EN SULFIDE IN HUN MENGSELS (Potentiometric determination of sulfite, thiosulfate, and sulfide in mixtures). 13 p. 8 refs. MTWL: 512. (Text in Dutch).
Order from OTS or ETC $1.85 61-17164

Trans. of Zhurnal Analiticheskoĭ Khimii (1951), v. 6, no. 2, p. 71-77.

DESCRIPTORS: *Potentiometers, *Sulfur compounds, Chemical analysis, Titration, Determination.

Nazarenko, V. A.
DETERMINATION OF MICROIMPURITIES IN SEMICONDUCTING MATERIALS AND METALS OF HIGH PURITY. [1959] 16p. 75 refs. MDF N-106.
Order from OTS or SLA $1.60 62-13701

Trans. of Khim[icheskaya] Nauka i Prom[yshlennost'] (USSR) 1959, v. 4, no. 2, p. 235-241.

DESCRIPTORS: *Metals, *Semiconductors, *Impurities, Determination, Separation, Zone melting, Evaporation, Sublimation, Solvent extraction, Organic solvents, Electrolysis, Ion exchange, Chromatographic analysis, Optics, Photometers, Mass spectroscopy, Tracer studies, Electrometers

Information is reviewed on (1) fundamental positions of the analysis of highly pure materials, (2) conditions for achieving high sensitivity and uniqueness of the method to determine the impurity, (3) methods of extracting impurities, and (4) methods of determining impurities.

Strnad, F.
POLAROGRAFISCHE BEPALING VAN CYCLOHEXANON EN ANDERE CARBONYLVERBINDINGEN. (Polarografic determination of cyclohexanone and other carbonyl compounds). 7 p. 4 refs. MTWL: 535. (Text in Dutch).
Order from OTS or ETC $1.55 61-17147

Trans. of Chemické Listy (Czechoslovakia) 1949, v. 43 p. 16-17.

DESCRIPTORS: *Cyclohexanones, *Polarographic analysis, Determination.

Toropova, V. F.
THIOSULPHATE COMPLEXES OF MERCURY. 11p. 13 refs. MTWL: 741.
Order from OTS or ETC $1.55 61-17271

Trans. of Zhurnal Obshchei Khimii (USSR) 1954, v. 24, no. 3, p. 423-427.

DESCRIPTORS: *Mercury compounds, Complex compounds, *Thiosulphates. Polarographic analysis.

Tunitskiĭ, N. N.
DE SCHOTELMETHODE VOOR DE BEREKENING VAN CHROMATOGRAFISCHE PROCESSEN. (A layer method of computation of chromatographic analysis) 5p. 7 refs. MTWL: 755. (Text in Dutch).
Order from OTS or ETC $1.40. 61-17264

Trans. of Akademiya Nauk SSSR. Doklady, 1954, v. 99, no. 4, p. 577-579.

DESCRIPTORS: *Chromatographic analysis, Theory.

Zhukhovitskiĭ, A.A., Turkel'taub, N.M., and Georgievskaya, T.V.
CONTINUOUS CHROMATHERMOGRAPHY. 7 p. 2 refs. MTWL: 666.
Order from OTS or ETC $1.55 61-17198

Trans. of Akademiya Nauk SSSR. Doklady, 1953, v. 92, no. 5, p. 987-990.

DESCRIPTORS: *Chromatographic analysis, Theory.

Organic Chemistry

BULLETIN OF THE ACADEMY OF SCIENCES USSR. DIV. OF CHEMICAL SCIENCES, 1942, NO. 4: [TABLE OF CONTENTS] AND SELECTED ABSTRACTS. [1961] 6p.
Order from OTS or SLA $1.10 61-20297

Abstract trans. of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1942, no. 4, p. 185-189, 200-220, 233-236, and inside back cover. ##A complete trans. of p. 210-220 is available from OTS or SLA $1.60 as 61-16665[1961] 11p.

DESCRIPTORS: *Hydrocarbons, Combustion, Flames, Oxidation, Fuels, Acetylones, Vinyl radicals, *Poisonous gases, Gases.

Contents:
Stalin prizes for scientific and technical accomplishments of 1940-41, by S. I. Vol'fkovich
Acetylene derivatives. XXVII. Hydration of divinylacetylene, by I. N. Nazarov and I. I. Zaretskaya
##Periodic reactions and mechanism of oxidation of hydrocarbons, by Yu. G. Gervart and D. A. Frank-Kamenetskii
Carbon as a means of counteracting suffocating and poison gases, by N. D. Zelinskii and V. S. Sadikov: Book review, by S. Z. Roginskii
Current events.

Akazome, Giichi, Sakai, Shizuyoshi, and Murai, Koichi.
COPOLYMERIZATION OF HIGHER ALKYL VINYL ETHERS. VII. COPOLYMERIZATION WITH MALEIC ANHYDRIDE. [1961] 7p. 8 refs.
Order from SA $15.00 SA Code-2

Trans. of Kobunshi Kagaku (Japan) 1960, v. 17, no. 186, p. 618-620.

DESCRIPTORS: *Alkyl radicals, *Vinyl radicals, *Ethers, *Copolymerization, Polymerization, *Maleic anhydride, Anhydrides, Chemical reactions

Copolymerization between vinyl ethers having saturated linear alkyl groups of 8 to 18 carbons and maleic anhydride was examined. Block or solution copolymerization of higher alkyl vinyl ethers with maleic anhydride was well initiated thermally or with use of radical initiator and the copolymer containing equal molar fraction of each constituents was obtained. Among various monomer components, the yield was best for the case of equal monomer fractions and the value of $[\eta]$ of the copolymer increased with the increase of the fraction of vinyl ethers. Also, the increase of the amount of the initiator and solvent lowered the value of $[\eta]$ and the yield. The increase of number of carbons of alkyl groups of vinyl ether increased the yield, but reduced the value of $[\eta]$. The monomer reactivity ratios between dodecyl vinyl ether (M_2) and maleic anhydride (M_1) in benzene solution thermal polymerization at 70°C were measured as follows; $r_1 = 0.046 \pm 0.052$ and $r_2 = -0.046 \pm 0.054$. At the equal molar fractions of dodecyl vinyl ether and maleic anhydride, the rate of thermal copolymerization in benzene solution was measured and the apparent activation energy was found to be 23.0 Kcal/mole. (Author)

Arbuzov, J. A.
DE REACTIES VAN DIEEN KOOLWATERSTOFFEN MET NITROSEVERBINDINGEN (Reactions of dienes with nitroso compounds). 8p. 2 refs. MTWL: 736. (Text in Dutch).
Order from OTS or ETC $1.55 61-17281

Trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 60, no. 6, p. 993-996.

DESCRIPTORS: *Butadienes, Benzenes, *Nitrosoradicals, Chemical reactions.

Baranaev, M. K., Gil'man, I. S. and others.
SEPARATION OF DICHLOROETHANE FROM ITS AQUEOUS SOLUTIONS. 12p. 6 refs. MTWL: 745.
Order from OTS or ETC $1.55 61-17275

Trans. of Zhurnal Prikladnoĭ Khimii (USSR) 1954, v. 27, no. 10, p. 1094-1100.

DESCRIPTORS: *Ethanes, *Chlorides, Vapor pressure, *Distilling plants, Mixtures, Water.

Blažek, A.
DE POLAROMETRISCHE BEPALING VAN HYDROXYLAMINE (Polarometric determination of hydroxylamine). 11p. 12 refs. MTWL: 761. (Text in Dutch).
Order from OTS or ETC $1.55 61-17254

Trans. of Chemické Listy (Czechoslovakia) 1953, v. 47, p. 1003-1007.

DESCRIPTORS: *Amines, Hydroxides, *Polarographic analysis, Determination.

Borisov, P. P., Eventova, M. S. and others.
INCREASING THE OCTANE NUMBER OF GROZNY GASOLINE. [1961] 5p. 4 refs.
Order from OTS or SLA $1.10 61-20153

Trans. of Neftyanoe Khozyaistvo (USSR) 1946 [v. 24] no. 1, p. 60-62.

DESCRIPTORS: *Gasoline, *Octanes, Isomeric transitions, Bleaching agents, Aluminum compounds, Hydrogen compounds, Chlorides, Aluminum, Chromium, Catalysts, Catalysis, Tests.

Experiments are reported showing that normal octane is readily isomerized with Zikeev bleaching earth promoted with unspecified metal oxides and that normal heptane is similarly isomerized by aluminum chloride-hydrogen chloride. Isoparaffins and aromatics facilitate the isomerizing effect of Zikeev bleaching earth, and a pronounced rise of the octane number of the mixture results. However, naphthenes hinder the isomerization of the mixture containing normal octane. Grozny gasoline is not much affected by aluminum chloride-hydrogen chloride under isomerizing conditions, apparently also due to the effect of naphthenes contained in it to the extent of 37 per cent. Dehydrocyclization of the fraction 100-150°C over a modified alumina-chromia catalyst and blending the product with the fraction 50-100° of the original gasoline gave a mixture with octane number 95, when treated with 3 cc TEL per kg against the octane number of the original gasoline, 59 clear. (Author)

Braun, D.
CHEMICAL TRANSFORMATIONS ON POLYSTYROL. [1961] 1p.
Order from SLA $1.10 62-10115

[Summary] trans. of unidentified German language article, n. p., n. d.

DESCRIPTORS: *Polymers, *Styrenes, Chemical reactions, Transformations.

Champetier, Georges and Sekiguchi, Hikaru.
REACTIVE MECHANISM OF THE ANION POLYMERIZATION OF LACTAMS. [1961] 14p. 33 refs.
Available on loan from SLA 62-10088

Trans. of Journal of Polymer Science (U. S.) 1960, v. 48, p. 309-319.

DESCRIPTORS: *Lactams, Polymerization, Amides, Polymers, Chemical reactions, Reaction kinetics.

Demarcq, Michael Charles.
ACIDOLYSIS EQUILIBRIA BETWEEN PHOSPHOROUS ACID AND ITS PHENYLIC ESTERS. [1961] 9p. 10 refs.
Order from SLA $1.10 61-20674

Trans. of Chimie et Industrie (France) 1961, v. 85, no. 5, p. 733-739.

DESCRIPTORS: *Acidosis, *Chemical equilibrium, *Phenyl radicals, *Esters, Sensitivity, Chemical reactions, *Phosphorus compounds, *Oxides, *Phenols, Titration.

The components H_3PO_3, H_2PO_3-Ph, HPO_3-Ph_2, and PO_3-Ph_3, are titrated by means of special methods developed for that purpose. The equilibria obtained are very sensitive, to the influence of temperature. The results are presented in diagram form. The dismutation ratios vary continuously with the percentages of phosphorous acid and triphenylphosphite reacted. A theoretical interpretation is proposed. (Author)

Dolgov, B.N. and Larin, N.A.
REACTIES MET ALUMINIUMCHLORIDE BEREID VOLGENS RADZIVANOVSKIĬ. CONDENSATIES VAN BENZEEN MET ENIGE ALIPHATISCHE ONVERZADIGDE HALOGEEN- EN POLYHALOGEENDERIVATEN (Reactions with aluminium chloride obtained according to Radzivanovskkiĭ. Condensation of benzene with some aliphatic unsaturated halogen derivatives and polyhalogenated compounds). 13 p. 10 refs. MTWL: 508. (Text in Dutch).
Order from OTS or ETC $1.55 61-17174

Trans. of Zhurnal Obshcheĭ Khimii (USSR), 1950, v. 20, p. 450-457.

DESCRIPTORS: *Aluminium compounds, *Chlorides Catalysis, *Condensation reactions, *Benzenes, Butenes, Ethylenes, Propenes.

Fenske, M. R.
PREPARATION OF ESTERS OF AROMATIC ACIDS. [1961] 6p.
Order from ATS $12.65 ATS-62N57F

Trans. of Belgian patent 601, 907, by Esso Res. and Eng. Co., filed 29 Mar 60.

DESCRIPTORS: Acids, *Esters, *Organic acids, Synthesis.

Fukumoto, Osamu.
EQUILIBRIA BETWEEN POLYCAPRAMIDE AND WATER. III. THEORETICAL TREATMENT ON THE DEGREE OF POLYMERIZATION, THE MELT VISCOSITY AND THE SOLUTION VISCOSITY OF MULTI-CHAIN POLYCAPRAMIDE. [1961] 8p. 3 refs.
Order from SA $15.00 SA Code-47

Trans. of Kobunshi Kagaku (Japan) 1961, v. 18, no. 189, p. 22-25.

DESCRIPTORS: *Lactams, Polymerization, Temperature, *Amides, *Polymers, Water, Chemical equilibrium, Vapor pressure, Viscosity, Theory.

The relationships among the temperature of polymerization, the vapor pressure of water and the number average or weight average degree of polymerization or melt viscosity of the obtained polycapramide have been considered theoretically when the multi-basic acid or multi-acidic base was used as a viscosity stabilizer. When viscosity stabilizer with two or more functional groups is used, the molecular weight distribution of this polymer becomes very sharp. As the relationship obtained previously between $\overline{P}n$ and $[\eta]$ can not be applied to this case, a revised expression has been introduced, which is in good agreement with experimental results. When the temperature, the vapor pressure of water and the number of moles of added stabilizer are kept constant, the number average degree of polymerization increases, as the functional degree of the stabilizer increases, and at lower vapor pressures, the weight average degree of polymerization, the melt viscosity and the solution viscosity decrease. At higher water vapor pressure, however, the latter three quantities depend reversely on the functional degree of the stabilizer. When difunctional stabilizer is used, a rough agreement has been obtained between the theory and the experimental results on the number average degree of polymerization and the solution viscosity. (Author)

Fukumoto, Osamu.
ON THE CONTINUOUS METHOD OF HYDROXYLAMINE PREPARATION. Studies on the Production of E-Caprolactam, no. I. [1961] 7p. 2 refs.
Order from SA $15.00 SA Code-38

Trans. of [Kogyo Kagaku Zasshi] (Japan) 1961, v. 64, no. 6, p. 1118-1121.

DESCRIPTORS: *Lactams, Production, *Amines, *Hydroxides, Preparation, Chemical reactions.

Furukawa, Jungi, Tsuruta, Teiji and others.
A NEW PROCESS FOR POLYMERIZATION OF CONJUGATED DIOLEFINS. 1961, 6p.
Order from SA $45.00

Trans. of [Japanese published] patent application 17790/1958, filed 26 June 58, 21 Jan 61, no. 290/1961.

DESCRIPTORS: *Polymerization, *Ethylenes, Chemical reactions, Caralysts, Mixtures, Chlorides, Metalorganic compounds

Goldberg, Eugene Paul.
RESINS HAVING AS STRUCTURAL ELEMENTS CARBONIC ACID RADICALS AND ORGANIC POLYACID RADICALS, tr. by E. D. Weil. 5 Aug 61, 13p.
Order from OTS or SLA $1.60 61-20026

Trans. of French patent 1,215,629, P. V. no. 772 712, internat'l. cl. C 08 g, by Thompson-Houston Co., appl. 19 Aug 58, delivered 23 Nov 59, pub 20 Apr 60 (appl. filed in U. S. 22 Aug 57).

DESCRIPTORS: *Resins, *Polymers, Esters, Copolymerization, *Carbonic acids, Acids, *Organic acids, Carbonates, Phenols, Tensile properties, Synthesis.

Some 25 examples are described of resinous compositions based on linear copolyesters of which the recurring structural elements are carbonate, carboxylate and aromatic carbocyclic groups, of which at least the carbonate groups are linked directly to nuclear aromatic carbon atoms. Copolyesters are built up starting with diphenol, which is caused to react with a dibasic carboxylic acid and a carbonate generator (such as phosgene), the latter being introduced by bubbling it into a solution of the former, pyridine, for example, serving as solvent. Disordered copolyesters or partially-ordered copolyesters may be obtained which have good resistance to heat, interesting mechanical properties, chemical inertness and solvent resistance, permitting numerous applications.

Goldhahn, H.
PROCESS FOR THE PRODUCTION OF CROTYL AND METHYL ALLYL CHLORIDE. 1961.
Order from TTIS $3.60 TTIS N. S. 29

Trans. of East German patent 21,731, appl. 16 June 58, pub. 15 Aug 61.

DESCRIPTORS: *Allyl radicals, *Methyl radicals, *Chlorides, *Butenes, Production.

Gonikberg, M.G., Gavrilova, A.E., and Kazanskiĭ, B.A.
THERMAL AND CATALYTIC CRACKING OF PARAFFINS AT HIGH PRESSURE. 7 p. 8 refs. MTWL: 664.
Order from OTS or ETC $1.55 61-17196

Trans. of Akademiya Nauk SSSR. Doklady, 1953, v. 98, no. 3, p. 483-486.

DESCRIPTORS: High pressure research, High temperature research, Decomposition, *Hexanes, Alumina-silica catalysts.

Grams, E. and Gaube, E.
THE NEW LOW PRESSURE POLYETHYLENES, THEIR PROPERTIES AND POSSIBILITIES OF APPLICATION. [1961] 18p. 12 refs.
Order from SLA $1.60 62-10013

Trans. of Angewandte Chemie (West Germany) 1955, v. 67 [no. 19/20] p. 548-556.
Another trans. is available from ES $8.00 [1961] 21p.

DESCRIPTORS: *Polymers, *Ethylenes, Properties

Grdenich, D. R. and Kitaĭgorodskiĭ, A. I.
THE CRYSTAL STRUCTURE OF MERCURY ALKYL HALIDES. 18p. 15 refs. MTWL: 751.
Order from OTS or ETC $1.85 61-17260

Trans. of Zhurnal Fizicheskoĭ Khimii (USSR) 1949, v. 23, no. 10, p. 1161-1171.

DESCRIPTORS: *Mercury compounds, Halides, Alkyl radicals, *Crystal structure.

Guillemin, Alain, Giraud, Andre, and Demester, Jacques.
PREPARATION OF HIGH OLEFIN CONTENT PRODUCTS FROM PETROLEUM. [1961] [15]p. 4 refs.
Order from SLA $1.60 61-18770

Trans. of World Petroleum Congress (no. 3) [held at The Hague, 1951. Proceedings] sect. IV, p. 184-190.

DESCRIPTORS: *Petroleum, Processing, *Ethylenes, *Hydrocarbons, Synthesis

Ivanov, K.I., Savinova, V.K., and Zhakhovskaya, V.P.
n-BUTYL BENZENE HYDROPEROXIDE. 6 p. 3 refs.
MTWL: 614.
Order from OTS or ETC $1.55 61-17236

Trans. of Zhurnal Obshchei Khimii (USSR) 1952, v. 22, no. 5, p. 781-784.

DESCRIPTORS: *Benzenes, *Hydroperoxides, Butyl radicals,

Ivanova, K.F. and Blagova, T.A.
METHODS FOR THE PREPARATION OF DIALKYL PEROXIDES. TETRALYL ETHYL PEROXIDE AND PHENYL ISOPROPYL ETHYL PEROXIDE. 9 p. 5 refs.
MTWL: 612.
Order from OTS or ETC $1.55 61-17234

Trans. of Zhurnal Obshchei Khimii (USSR) 1952, v. 22, no. 5, p. 784-789.

DESCRIPTORS: Alkyl radicals, *Peroxides, Synthesis.

Kalmachenko, V.R., Varshavskiĭ, Ya. M, and Shatenshteĭn, A.I.
INVESTIGATION INTO THE REACTIVITY OF AROMATIC COMPOUNDS ACCORDING TO THE ISOTOPE EXCHANGE METHOD WITH DEUTERIUM BROMIDE. 8 p. 4 refs. MTWL: 636
Order from OTS or ETC $1.55 61-17208

Trans. of Akademiya Nauk SSSR. Doklady, 1953, v. 91, no. 3, p. 577-580.

DESCRIPTORS: *Benzenes, Hydrogen compounds, Bromides, Liquids, *Exchange reactions, Deuterium.

Kazanskiĭ, B.A. and Gostunskaya, I.V.
ADDITIE VAN WATERSTOF VAN 1.3.-DIËNEN MET BEHULP VAN CALCIUMAMMONIAK (Addition of hydrogen to 1,3-dienes with the aid of calcium-ammonia). 8 p. 10 refs. MTWL: 419 (Text in Dutch).
Order from OTS or ETC $1.55 61-17101

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 71, no. 2, p. 295-298.

DESCRIPTORS: *Isoprene, *Octenes, *Hydrogenation, Catalysts, Calcium Compounds, Ammoniates.

Kazanskii, B. A., Plate, A. F. and others.
CONTACT CYCLIZATION OF PARAFFINIC HYDROCARBONS. CATALYSTS CONTAINING VANADIUM PENTOXIDE AND THORIUM DIOXIDE. [1961] [3]p. 5 refs.
Order from OTS or SLA $1.10 61-20818

Reprint of [Akademiya Nauk SSSR]. Comptes Rendus (Doklady) de l'Academie des Sciences de l'U.R.S.S., 1940, v. 27, no. 7, p. 658-663.

DESCRIPTORS: *Hydrocarbons, Chemical reactions, Vanadium compounds, Oxides, Thorium compounds, Dioxides, Catalysts, Catalysis

Alumina, vanadium pentoxide and ammonium metavanadate taken separately, do not catalyze the reaction of cyclization. Alumina with 5-10% of vanadium pentoxide catalyzes intensively the process of cyclization of paraffinic hydrocarbons at 500°, but gradually loses its activity and becomes covered with carbon formed from the decomposition of the hydrocarbons. These catalysts can be regenerated by heating in a current of air, whereby they recover their initial activity. Thorium dioxide deposited on alumina is also capable of catalyzing the process of cyclization of paraffinic hydrocarbons. In this case a gradual increase of the activity of the catalyst is observed, the activity reaching a certain maximum which then begins to decline. The regeneration of this catalyst with air is also possible. (Author)

Kazanskiĭ, B.A. and Smirnova, N.V.
HYDROGENATION OF AROMATIC HYDROCARBONS BY MEANS OF CALCIUM-AMMONIA. 11 p. 10 refs.
MTWL: 608.
Order from OTS or ETC $1.55 61-17247

Trans. of Akademiya Nauk SSSR. Otdelenie Matematicheskikh i Estestvennykh Nauk. Izvestiya, 1937, p. 547-554.

DESCRIPTORS: *Benzenes, Hydrocarbons, Calcium, Ammonia, *Hydrogenation.

Kazanskiĭ, B.A. and Glushnev, N.F.
HYDROGENATION OF AROMATIC HYDROCARBONS THROUGH REACTION WITH CALCIUM-AMMONIA. 16 p. 19 refs. MTWL: 615.
Order from OTS or ETC $1.85 61-17237

Trans. of Zhurnal Obshchei Khimii (USSR) 1937, v. 8, no. 7, p. 642-650.

DESCRIPTORS: *Benzenes, Hydrocarbons, *Hydrogenation, Calcium, Ammonia.

Kipryanov, A. I. and Tolmachev, A. I.
STERIC HINDRANCE IN CYANINE DYES CONTAINING ALKYL GROUPS IN POLYMETHINE CHAIN. [1961] 9p. 15 refs.
Order from OTS or SLA $1.10 61-18310

Trans. of Ukrainskii Khimicheskii Zhurnal (USSR) 1959, v. 25, no. 3, p. 337-343.

DESCRIPTORS: *Phthalocyanines, *Dyes, Alkyl radicals, Methyl radicals, Stereochemistry

Styryl dye bases were obtained for a benzothiazole series containing a methyl group in the α- or β-position of the chain. A comparison of the absorption curves of the hydrochloride of these bases with the absorption curves of corresponding dye-methylates shows that steric hindrance exists in dye molecules. Bases of thiacarbocyanines containing substituents in the chain were obtained. The absorption spectra of these bases and their hydrochlorides were studied. (Author)

Klebanskiĭ, A.A. and Mironenko, G.I.
HIGH-MOLECULAR PRODUCTS OF THE CONDENSATION OF BENZENE WITH DICHLOROETHANE METHOD OF SYNTHESIS AND INVESTIGATION OF COMPOSITION AND STRUCTURE. 19 p. 3 refs.
MTWL-629.
Order from OTS or ETC $1.85 61-17231

Trans. of Zhurnal Prikladnoĭ Khimii (USSR) 1941, v. 14, no. 4/5, p. 618-631.

DESCRIPTORS: Benzenes, Ethanes, Chlorine compounds, Condensation reactions, *Polymers, *Friedel-Crafts reactions.

Kolesnikov, H. S., Suprun, A. P. and others.
CARBOCHAIN POLYMERS AND COPOLYMERS. XXI. COPOLYMERS ON THE BASIS OF BICYCLO-(2, 2, 1)-HEPTADIENE-2, 5 AND 1, 2, 3, 4, 7, 7-HEXACHLORO-BICYCLO-(2, 2, 1)-HEPTADIENE-2, 5. [1961] [6]p. 6 refs.
Order from OTS or SLA $1.10 61-20642

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1960, v. 2 [no. 3] p. 451-455.
Another trans. is available from ATS $6.75 as ATS-19N52R [1961] 5p.

DESCRIPTORS: *Polymerization, *Copolymerization, Condensation reactions, Polymers, Cyclic compounds, *Chlorine compounds, Elasticity, Temperature, *Styrenes, *Vinyl radicals, *Acetates.
New copolymers of bicyclo-(2, 2, 1)-heptadiene-2, 5 with 1, 2, 3, 4, 7, 7-hexachlorobicyclo-(2, 2, 1)-heptadiene-2, 5, styrene and vinyl acetate were synthesized. The introduction of even small amounts of hexachlorobicycloheptadiene into the polybicycloheptadiene macromolecule leads to increase in solubility and lowering of the glass transition. Several of the copolymers elasticity at high temperatures. (See also 61-20641)

Kolensnikov, G. S., Rodionova, E. F. and others.
CARBON-CHAIN POLYMERS AND COPOLYMERS. XXVII. THE POLYMERIZATION AND COPOLYMERIZATION OF THE DI-N-BUTYL ESTER OF VINYLPHOSPHINIC ACID. [1961] [8]p. 7 refs.
Order from OTS or SLA $1.10 61-20643

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1960, v. 2, [no., 9] p. 1432-1437.

DESCRIPTORS: Polymerization, *Copolymerization, Condensation reactions, Polymers, Cyclic compounds, Chlorine compounds, *Phosphinic acids, *Styrenes, *Vinyl radicals, *Chlorides, *Acetates, Thermochemistry, Mechanical properties, Esters, Butyl radicals.

The polymerization of the di-n-butyl ester of vinylphosphinic acid was studied under different conditions. Copolymers of the di-n-butyl ester of vinylphosphinic acid were obtained with styrene, vinyl chloride and vinyl acetate, and the thermomechanical properties of the polymers and copolymers were determined. (Author) (See also 61-20642)

Korshak, V.V. and Pakhomov, I.I.
DE BEREIDING VAN HET DINITRIL VAN ADIPINEZUUR (Preparation of adiponitrile). 8 p. 12 refs. MTWL: 541. (Text in Dutch).
Order from OTS or ETC $1.55 61-17133

Trans. of Zhurnal Prikladnoĭ Khimii (USSR) 1941, v. 14, p. 632-635.

DESCRIPTORS: *Nitriles, Organic acids, *Fatty acids, Preparation.

Korshak, V.V. and Golubev, V.V.
ONDERZOEKINGEN OP HET GEBIED DER POLYCONDENSATIE. VII. INVLOED VAN EEN OVERMAAT ADIPINEZUUR OP ZIJN POLYCONDENSATIE MET HEXAMETHYLEENDIAMINE (Polycondensation reactions. VII. Influence of excess of adipic acid on polycondensation with hexamethylenediamine), tr. by G.J.M. Fritschy. 10 p. 5 refs. MTWL: 549 (Text in Dutch).
Order from OTS or ETC $1.55 61-17141

Trans. of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk, Izvestiya, 1946, no. 2, p. 185-190.

DESCRIPTORS: *Fatty acids, *Polymerization Cyclohexanes, Hydrazine.

Korshak, V.V. and Zamyatina, V.A.
ONDERZOEKINGEN OP HET GEBIED VAN DE HOOGMOLECULAIRE VERBINDINGEN. MEDEDELING XVI. HET PROBLEEM DER POLYDISPERSITEIT VAN POLYAMIDEN (High molecular weight compounds. XVI. The polydispersity of polyamides), tr. by G.J.M. Fritschy. 11p. 10 refs. MTWL: 550. (Text in Dutch).
Order from OTS or ETC $1.85 61-17142

Trans. of Akademiya Nauk SSSR, Otdelenie Khimicheskikh Nauk. Izvestiya, 1948, no. 4, p. 412-419.

DESCRIPTORS: *Amides, *Colloids, Polymers.

Korshak, V. V.
OVER DE VERANDERING VAN HET MOLECULAIRGEWICHT VAN HOOGMOLECULAIRE VERBINDINGEN TIJDENS CHEMISCHE DESTRUCTIEPROCESSEN (The change of the molecular weight of high polymers in the process of chemical destruction), tr. by G.J.M. Fritschy. 7 p. 12 refs. MTWL: 343. (Text in Dutch).
Order from OTS or ETC $1.55 61-17216

Trans. of Akademiya Nauk SSSR. Doklady, 1949, v.64, p. 525-528.

DESCRIPTORS: *Molecular weight, *Polymers, Decomposition.

Kozlov, P. V., Kabanov, V. A., and Plate, N. A.
THE INTERNATIONAL MACROMOLECULAR CHEMISTRY SYMPOSIUM IN MOSCOW (NO. 14) 14-18 JUNE 60. 30 Nov 61 [49]p. JPRS: 11387.
Order from OTS or SLA $4.60 62-13684

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1961, v. 3, no. 2, p. 328-348.

DESCRIPTORS: Symposia, *Polymers, Chemistry, Stereochemistry, Synthesis, Molecular structure, Molecular weight.

Kubias, J. and Pilný, S.
DE BEPALING VAN KROTONALDEHYDE IN BUTYRALDEHYDE DOOR DIRECTE POTENTIOMETRISCHE TITRATIE MET BROOM (Determination of crotonaldehyde in butyraldehyde by direct potentiometric titration with bromine). 10p. 4 refs. MTWL: 760. (Text in Dutch).
Order from OTS or ETC $1.55 61-17253

Trans. of Chemické Listy (Czechoslovakia) 1953, v. 47, p. 672-675.

DESCRIPTORS: *Bromine, Electric potential, *Electrolytic titration, Aldehydes, Methanols.

Kuchkarov, A.B. and Tsukervanik, I.P.
ALKYLERING VAN AROMATISCHE VERBINDINGEN IN AANWEZIGHEID VAN ZINKCHLORIDE. IV. CONDENSATIE VAN HALOGEENDERIVATEN EN ALCOHOLEN MET AROMATISCHE VERBINDINGEN ONDER DRUK (Alkylation of aromatic compounds in the presence of zinc chloride. IV. Condensation of halides and alcohols with aromatic compounds under pressure). 9 p. 7 refs. MTWL: 507. (Text in Dutch).
Order from OTS or ETC $1.55 61-17173

Trans. of Zhurnal Obshchei Khimii (USSR), 1950, v. 20, p. 458-461.

DESCRIPTORS: *Chlorides, bromides, butanes, ethanes, pentanes, *Condensation reactions, *Alcohols, *Zinc compounds, *Benzenes, Phenols, Naphthalenes, High pressure research.

Kurabayashi, Masahiro and Yanagiya, Koshin.
A STUDY OF THE DEAMMONIATION REACTION. Rept. no. 5 of Studies on Ammonia-Pressurized Synthesis of Melamine. [1961] 12p. 10 refs.
Order from SLA $1.60 61-18680

Trans. of Tokyo Kogyo Shikensho Hokoku (Japan) 1961, v. 56, no. 2, p. 59-63.

DESCRIPTORS: *Ammonia, Chemical reactions, *Melamine, Synthesis, Pressure, Decomposition, Condensation reactions, *Cyano radicals, *Guanidines.

The study was conducted as proof of the effect of ammonia in the ammonia-pressurization method. First, dicyandiamide was fused into a thin layer at 213°C in order to avoid the accumulation of reaction heat, and by analysing the composition of the reaction system at regular intervals, the intermediate formation of cyanamide, biguanide, cyanomelamine, and guanylmelamine, was confirmed; next, by similarly heating and fusing mixtures of cyanomelamine and guanylmelamine with dicyandiamide, it was found that these two substances [i.e., cyanomelamine and guanylmelamine] easily changed over to water-insoluble condensates even at relatively low temperatures, and it became clear that this reaction constituted at least a part of the deammoniation reaction. As a result, in terms of the reaction mechanism it was proved that complete prevention of the formation of deammoniation condensates is impossible by mere prevention of super-heating by a simple normal-pressure method; and since ammonia pressure has the effect of suppressing cyanomelamine formation and of causing this to change over to melamine by way of guanylmelamine, the reasonableness of the ammonia-pressurization method could be clearly understood. (Author) (See also 60-18155)

Landa, S. and Procházka, J.
OVER DE POLYMERISATIE VAN GESUBSTITUEERDE ε-CAPROLACTAMEN (Polymerization of substituted ε-caprolactams), tr. by G.J.M. Fritschy, 9 p. 6 refs. MTWL: 552. (Text in Dutch).
Order from OTS or ETC $1.55 61-17124

Trans. of Chemické Listy (Czechoslovakia) 1943, v. 37, p. 158-161.

DESCRIPTORS: *Capric acids, *Polymerization.

Malinovskiĭ, M.S. and Lyapia, A.A.
SYNTHESE VAN ALIFATISCH-AROMATISCHE KETONEN EN DOOR MIDDEL VAN DE FRIEDEL-CRAFTS REACTIE MET BEHULP VAN ZUREN. (Synthesis of aliphatic-aromatic ketones by the Friedel-Crafts reaction with the aid of acids. 5 p. 5 refs. MTWL: 668. (Text in Dutch).
Order from OTS or ETC $1.40 61-17200

Trans. of Zhurnal Obshchei Khimii (USSR) 1941, v. 11, p. 168-169.

DESCRIPTORS: *Friedel-Crafts reactions.

Matveev, V. K.
ORGANIC LUMINESCENT SUBSTANCES. 8 Dec 61 [13]p. 4 refs. JPRS: 11543.
Order from OTS or SLA $1.60 62-13661

Trans. of Priroda (USSR) 1961 [v. 50] no. 7, p. 13-18.

DESCRIPTORS: *Organic compounds, *Luminescent materials, Phosphors, Fluorescent dyes, Dyes, Bleaching agents, Scintillation counters, Materials.

Meshitsuka, Gisuke, Kamachi, Mikiharu, and Hirota, Kozo.
BLOCK-COPOLYMERIZATION BY METALLIC SODIUM. I. BLOCK-COPOLYMERIZATION OF STYRENE AND α-METHYL STYRENE. [1961] 5p. 6 refs.
Order from SA $15.00 SA Code-7

Trans. of Kōbunshi Kagaku (Japan) 1960, v. 17, no. 186, p. 641-643.

DESCRIPTORS: *Styrenes, *Methyl radicals, Copolymerization, Polymerization, Sodium, Catalysts, Catalysis, Polymers.

Miesserov, K.G.
POISONING OF ALUMINOSILICATE CATALYSTS BY PYRIDINE BASES. 7 p. 10 refs. MTWL: 665.
Order from OTS or ETC $1.55 61-17197

Trans. of Akademiya Nauk SSSR. Doklady, 1953, v. 91, no. 3, p. 553-556.

DESCRIPTORS: *Alumina-silica catalysts, Poisoning, Pyridine derivatives.

Miller, G., Cobb, J. and others.
A PROCESS FOR THE PREPARATION OF AZIRIDINES. [1961] 6p.
Order from ATS $8.90 ATS-04N56F

Trans. of Belgian patent 594, 895, by the Dow Chemical Co. [U. S. A.] filed 11 Sep 59.

DESCRIPTORS: *Aziridines, Synthesis.

Mleziva, J.
DE CONDENSATIE VAN CYCLOHEXANON. I. DE CONDENSATIE VAN CYCLOHEXANON ONDER INVLOED VAN ALKALIËN EN ZUREN (Self-condensation of cyclohexanone by alkalies and acids). 14p. 19 refs. MTWL: 763. (Text in Dutch).
Order from OTS or ETC $1.85 61-17256[1]

Trans. of Chemické Listy (Czechoslovakia) 1953, v. 47, p. 1031-1037

DESCRIPTORS:*Cyclohexanones, *Condensation reactions, Methanols, Acids, Alkali metals, Hydroxides.

Mleziva, J.
DE CONDENSATIE VAN CYCLOHEXANON. II. DE DE CONDENSATIE VAN CYCLOHEXANON MET EEN METHANOLISCHE OPLOSSING VAN EEN ALKALI-HYDROXYDE ONDER DRUK (Self condensation of cyclohexanone. II. Self condensation of cyclohexanone by alkalies and acids). 12p. 10 refs. MTWL: 763. (Text in Dutch).
Order from OTS or ETC $1.85 61-17256[2]

Trans. of Chemické Listy (Czechoslovakia) 1953, v. 47, p. 1354-1358.

DESCRIPTORS: *Cyclohexanones, *Condensation reactions, Methanols, Acids, Alkali metals, Hydroxides.

Myagkov, V. A. and Pakshver, A. B.
DE KINETICA DER HYDROLYSE VAN CAPROLACTAM EN POLYAMIDEHARSEN (Kinetics of hydrolysis of caprolactam and of polyamide resin). 11p. 3 refs. MTWL: 758. (Text in Dutch).
Order from OTS or ETC $1.55 61-17251

Trans. of Kolloidnyĭ Zhurnal (USSR) 1952, v.14, p. 172-176.

DESCRIPTORS: *Amides, Resius, *Hydrolysis.

Nametkin, S. S. and Abakumovskaya, L. N.
HYDROPOLYMERIZATION OF 3-METHYL-1-BUTENE BY 100 PER CENT SULFURIC ACID. [1961] 4p. 5 refs.
Order from OTS or SLA $1.10 61-20129

Trans. of Zhurnal Obshchei Khimii (USSR) 1945, v. 15, p. 358-361.

DESCRIPTORS: *Sulfuric acid, *Butenes, Polymers, *Polymerization, *Hydrogenation, Hydrocarbons, Ethylenes, Methyl radicals.

Hydropolymerization of 3-methyl-1-butene under the action of 100% sulfuric acid was studied under different conditions. Formation in this reaction of hydrogenated polymers from dimers to hexamers, inclusive, was shown. When 100% sulfuric acid is used, the hydropolymerization of 3-methyl-1-butene forms more diversified polymers than under the action of sulfuric acid of sp gr 1.84; the numerous isomers resulting make it extremely difficult to isolate the individual hydropolymers in pure state. In the presence of 100% sulfuric acid hydropolymerization of 3-methyl-1-butene is more complete than under the action of sulfuric acid of sp gr 1.84 and the hydropolymers formed are either entirely free of unsaturated hydrocarbons or contain a smaller admixture of them. (Author)

Nazarov, I.N., Kuznetsov, N.V., and Semenovskiĭ, A.V.
THE PREPARATION OF AROMATIC ACIDS BY OXIDATION OF SIDE CHAINS OF AROMATIC COMPOUNDS BY NITRIC ACID. 9p. 5 refs. MTWL: 756.
Order from OTS or ETC $1.55 61-17265

Trans. of Akademiya Nauk SSSR. Doklady, 1954, v. 99, no. 6, p. 1003-1006.

DESCRIPTORS: *Benzenes, Nitric acid, Oxidation, *Acids, Preparation.

Nikĭtin, B.A. and Ioffe, E.M.
A COMPOUND OF RADON WITH PARACHLOROPHENOL. 5 p. 3 refs. MTWL: 625.
Order from OTS or ETC $1.55 61-17227

Trans. of Akademiya Nauk SSSR. Doklady, 1952, v. 85, no. 4, p. 809-810.

DESCRIPTORS: *Radon, Chemical reactions, Chlorine compounds, *Phenols.

Nikitin, B.A. and Koval'skaya, M.P.
COMPOUNDS OF RARE GASES AND OF THEIR ANALOGUES WITH PHENOL. 12 p. 9 refs. MTWL: 626
Order from OTS or ETC $1.85 61-17228

Trans. of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1952, no. 1, p. 24 -30.

DESCRIPTORS: *Rare gases, Chemical reactions, *Phenols.

Obolentsev, R.D. and Gryazev, N.N.
ONTALKYLERING VAN ISOPROPYLBENZOL OVER EEN ALUMO-SILICAAT KATALYSATOR (Dealkylation of isopropylbenzene on aluminosilicate catalyst). 9 p. 6 refs. MTWL: 417 (Text in Dutch).
Order from OTS or ETC $1.55 61-17099

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 73, no. 1, p. 121-124.

DESCRIPTORS: *Cumenes, *Disproportionation, Alumina-silica catalysts, Physical Chemistry.

Panchenkov, G.M.
VISCOSITEIT EN STRUCTUUR VAN MOLECULEN (Viscosity and structure of molecules).
7 p. 4 refs. MTWL:564.(Text in Dutch)
Order from OTS or ETC $ 1.55 61-17116

Trans.of Akademiya Nauk SSSR.Doklady, 1951. v.80, no.6, p.899-902.

Descriptors: *Viscosity, *Molecular Structure, Methanes, Chemical Bonds, Polarization, Alcohols.

Petrov, A.D., Mikhaĭlova, A.K. and Mitrofanova, E.V.
HET MECHANISME DER CONDENSATIE VAN ACETYLEEN MET KETONEN (The mechanism of the condensation reaction of acetylene with ketones). 9p. 6 refs. MTWL: 757. (Text in Dutch).
Order from OTS or ETC $1.55 61-17250

Trans. of Akademiya Nauk SSSR. Doklady, 1953, v.91, p. 857-860.

DESCRIPTORS: *Acetylenes, Ketones, *Condensation, Chemical reactions.

Plate, A.F., Shafran, R.N., and Batuev, M.I.
KOOLWATERSTOFFEN VAN DE CYCLOPENTAANREEKS MET EEN DUBBELE BINDING IN DE ZIJKETEN (Hydrocarbons of the cyclopentane series with a double bond in the side chain). 11 p. 23 refs. MTWL: 513. (Text in Dutch).
Order from OTS or ETC $1.55 61-17166

Trans. of Zhurnal Obshchei Khimii (USSR), 1950, v. 20, no. 3, p. 472-478.

DESCRIPTORS: *Cyclopentanes, Chemical reactions, *Hydrocarbons.

Polyakov, M.V. and Shalya, V.V.
HET VRAAGSTUK BETREFFENDE HET LANGZAME OXYDATIE-MECHANISME VAN KOOLWATERSTOFFEN (Mechanism of the slow oxidation of hydrocarbons). 8 p. 4 refs. MTWK: 420. (Text in Dutch).
Order from OTS or ETC $1.55 61-17102

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 73, no. 5, p. 979-982.

DESCRIPTORS: *Butanes, *Propanes, *Combustion, Physical Chemistry, Chain Reactions.

Procházka, J.
OVER DE POLYMERISATIE VAN GESUBSTITUEERDE ε-CAPROLACTAMEN (I) (Polymerization of substituted ε- caprolactams (I), tr. by G.J.M. Fritschy. 9 p. MTWL: 551. (Text in Dutch).
Order from OTS or ETC $1.55 61-17123

Trans. of Chemické Listy (Czechoslovakia) 1943, v. 37, p. 208-211.

DESCRIPTORS: *Capric acids, *Polymerization.

Radikov, S.R. and Suvorov, B.V.
THE MECHANISM OF THE CATALYTIC OXIDATION OF p-CYMENE IN THE VAPOUR PHASE. 6 p. 9 refs. MTWL: 618.
Order from OTS or ETC $1.55 61-17239

Trans. of Akademiya Nauk SSSR. Doklady, 1952, v. 82, no. 3, p. 415-417.

DESCRIPTORS: *Cymenes, Catalysis, Oxidation, Vapors.

Rieche, Alfred and Seeboth, Helmuth.
REACTIONS OF NAPHTHOLS AND NAPHTHYLAMINES UNDER THE INFLUENCE OF HYDROGEN SULFITE (BUCHERER REACHTION). III. THE MECHANISM OF THE BUCHERER REACTION. [1961] 14p.
Order from SLA $1.60 62-10038

Trans. of [Justus Liebigs] Annalen der Chemie (West Germany) 1960, v. 638, p. 66-75.

DESCRIPTORS: *Naphthalenes, *Amines, *Naphthyl radicals, Hydrogen compounds, Sulfites, Chemical reactions, Reaction kinetics.

See also 62-10039

Sanna, Giuseppe.
INTERACTION OF POLYHALOGENATED DERIVATIVES WITH ORGANOMAGNESIUM COMPOUNDS. [1961] [15]p. 4 refs.
Order from SLA $1.60 61-20756

Trans. of Gazzetta Chimica Italiana, 1942, v. 72 [no. 7] p. 305-312.

Portions of this report will not produce well.

DESCRIPTORS: Grignard reagents, *Magnesium compounds, *Organic compounds, *Chemical reactions, *Halogenation, *Halogens, Sulfur, Sulfones, Sulfides, Separation, Benzenes, Aliphatic compounds, *Halogen compounds, Condensation reactions.

Shatenshtein, A. I. and Izrailevich, E. A.
THE RECIPROCAL INFLUENCE OF ATOMS IN MOLECULES OF SOME AROMATICS ACCORDING TO EXPERIMENTS WITH HYDROGEN ISOTOPE EXCHANGE. 8p. 4 refs. MTWL: 743.
Order from OTS or ETC $1.55 61-17273

Trans. of Akademiya Nauk SSSR. Doklady, 1954, v. 94, no. 5, p. 923-926.

DESCRIPTORS: *Exchange reactions deuterium, *Chemical bonds, *Benzenes.

Soborovskiĭ, L.Z., Zinovev, Yu.M., and Englin, M.A.
DE BEREIDING VAN ORGANISCHE FOSFORVERBINDINGEN DOOR REACTIE VAN FOSFORTRICHLORIDE EN ZUURSTOF MET KOOLWATERSTOFFEN, MET HUN CHLOORDERIVATEN EN MET AETHERS. (Preparation of phospho-organic compounds by a reaction of phosphorus trichloride and oxygen with hydrocarbons and their halogen derivates and with ethers). 7 p. 3 refs. MTWL: 424. (Text in Dutch).
Order from OTS or ETC $1.55 61-17076

Trans. of Akademiya Nauk SSSR. Doklady (USSR) 1950, v. 73, p. 333-336.

DESCRIPTORS: *Phosphorous compounds, *Organic compounds, Preparation, *Chlorides, *Oxygen, *Hydrocarbons, Ethers.

Sorokin, M. F. and Laguzina, A. M.
THE INTERACTION OF CERTAIN ARYLGLYCIDIC ESTERS WITH ALCOHOLS OF THE ALIPHATIC SERIES. [1961] 7p. 5 refs.
Order from OTS or SLA $1.10 61-20627

Trans. of Nauchnye Doklady Vysshei Shkoly. Khimiya i Khimicheskaya Tekhnologiya (USSR) 1958, no. 1, p. 110-114.

DESCRIPTORS: *Epoxy resins, Resins, Synthesis, *Resorcinol, Ethers, Phenoxy radicals, Propanes, Epoxides, *Alcohols, Propanols, Alkoxy radicals, Chemical reactions.

Stepukhovich, A.D.
DECOMPOSITION OF PARAFFINIC HYDROCARBONS IN THE PRESENCE OF SOME RETARDERS; 8 p. 8 refs. MTWL: 634.
Order from OTS or ETC $1.55 61-17206

Trans. of Akademiya Nauk SSSR. Doklady, 1953, v. 90, no. 2, p. 213-216.

DESCRIPTORS: Aliphatic compounds, Hydrocarbons, Decomposition, *Butenes, *Propenes.

Tilicheev, M.D., Peshkov, V.P., and Yuganova, S.S.
KRYOSCOPISCHE CONSTANTEN EN OMZETTINGSTEMPERATUUR VAN DE N-ALKANEN C_6-C_{20} (Cryoscopic constants and transition temperatures of normal alkanes C_6C_{20}). 14 p. 8 refs. MTWL: 510. (Text in Dutch).
Order from OTS or ETC $1.55 61-17176

Trans. of Zhurnal Obshchef Khimii (USSR). 1951, v. 21, no. 7, p. 1229-1237.

DESCRIPTORS: *Hydrocarbons, Chemical impurities, Freezing point depressants, *Purification, Temperature, Crystallization.

Titov, A.I.
THEORIE DER NITRERING VAN VERZADIGDE KOOLWATERSTOFFEN EN HUN DERIVATEN. III. ALGEMENE THEORIE DER VORMING VAN MONONITRODERIVATEN. DE NITRERING VAN TOLUEEN TOT PHENYLNITROMETHAAN. (Theory of nitration of saturated hydrocarbons and their derivatives. III; General theory of the formation of mononitro derivatives. The nitration of toluene to phenylnitromethane) 12 p. 5 refs. MTWL-677. (Text in Dutch).
Order from OTS or ETC $1.55 61-17189

Trans. of Zhurnal Obshchef Khimii (USSR) 1948, v. 18, p. 473-478.

DESCRIPTORS: *Toluenes, Nitric acid, *Nitroradical substitution reactions, Nitrogen compounds, Dioxides, Theory.

Tkachenko, G. V. and Khomikovskiĭ, P. M.
POLYMERISATIE VAN 1,1-DICHLOORAETHYLEEN IN EMULGATOROPLOSSINGEN ONDER INVLOED VAN WATEROPLOSBARE PEROXYDEN (VOLGENS HET EMULSIE-POLYMERISATIEMECHANISME) (Polymerisation of 1,1-dichloraethylene in solutions of emulsifiers under the action of soluble peroxide). 9 p. 7 refs. MTWL: 347. (Text in Dutch).
Order from OTS or ETC $1.55 61-17220

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 72, no. 3, p. 543-546.

DESCRIPTORS: *Polymerization, Ethylenes, Chlorine compounds, Colloids, *Peroxides.

Tópchiev, A.V., Paushkin, Ya.M., and Kurashev, M.V.
ALKYLATION OF BENZENE WITH PROPYLENE IN THE PRESENCE OF POLYISOPROPYL BENZENE AND ALUMINIUM CHLORIDE. 8 p. 5 refs. MTWL: 630.
Order from OTS or ETC $1.55 61-17232

Trans. of Akademiya Nauk SSSR. Doklady, 1953, v. 88, no. 5, p. 849-852.

DESCRIPTORS: *Benzenes, *Propenes, Cermenes, Chemical equilibrium.

Topchiev, A.V., Tumerman, B.M., and Andronov, V.N.
DE STRUCTUUR VAN DI-ISOBUTYLEEN, VERKREGEN DOOR POLYMERISATIE VAN ISOBUTYLEEN OVER $(C_2H_5)_2O.BF_3$ (Structure of the diisobutylene obtained by polymerization of isobutylene over $(C_2H_5)_2O.BF_3$. 7 p. 7 refs. MTWL: 416. (Text in Dutch).
Order from OTS or ETC $1.55 61-17098

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 74, no. 1, p. 81-83.

DESCRIPTORS: *Butenes, *Polymerization, Catalysts, Boron Compounds, Fluorides, Octenes.

Topchieva, K.V., Battalova, Sh., and Panchenkov, G.M
DE OMZETTING VAN KOOLWATERSTOFFEN OVER ALUMO- SILICAAT KATALYSATOREN VAN VERSCHILLENDE SAMENSTELLING (Reactions of hydrocarbons on aluminosilicates of different compositions). 8 p. 18 refs. MTWL: 502. (Text in Dutch).
Order from OTS or ETC $1.55 61-17178

Trans. of Akademiya Nauk SSSR. Doklady, 1951, v. 78, no. 3, p. 501-504.

DESCRIPTORS: *Alumina-silica catalysts, Hydrocarbons, Fuel oil, hydrogenation, Naphtalenes, Theory, Decomposition.

Tsvetkov, V.N.
EEN METHODE TER BEPALING VAN DE GEOMETRISCHE AFMETINGEN VAN MACROMOLECULEN IN EEN OPLOSSING (Method of determination of the geometric dimensions of macromolecules in solution). 9 p. 11 refs. MTWL: 562 (Text in Dutch).
Order from OTS or ETC $1.55 61-17114

Trans. of Akademiya Nauk SSSR. Doklady, 1951, v. 78, no. 3, p. 465-468.

DESCRIPTORS: *Polymer Solutions, Stereochemistry, Diffusion, Viscosity, Optical Analysis, Theory.

Ushakov, M. I. and Kosheleva, N. F.
PHOTOPOLYMERIZATION OF $\Delta^{4,6}$-CHOLESTADIENONE, tr. by Z. D. Knowles. 23 Oct 51, 10p. 4 refs.
Order from OTS or SLA $1.10 61-28119

Trans. of Zhurnal Obschei Khimii (USSR) 1944, v. 14, no. 11/12, p. 1138-1141.

DESCRIPTORS: *Cholestenone, Polymerization, Ultraviolet radiation, Hydrogenation, Hexanes, Cholesterol, Photo-chemistry, Chemistry.

At exposure to ultraviolet light of a solution of $\Delta^{4,6}$-cholestadienone in hexane, a dimer-lumicholestadienone is obtained which at heating dissociates, yielding inversely $\Delta^{4,6}$-cholestadienone. At catalytic hydrogenation with palladium black lumicholestadienone ($C_{54}H_{84}O$) at the splitting off of water converts into a product of the composition $C_{54}H_{86}O$, containing a hydrogenated furan cycle. "The product of hydrogenation" at thermic breakdown changes into $\Delta^{4,6}$-cholestadienone and cholestadiene, identical with (that) obtained at the breakdown of the dicholestadienyl. (Author)

Večera, Z. and Pinkava, J.
HET TERNAIRE DIAGRAM WATER - CYCLOHEXANONOXIME - AMMONIUMSULFAAT (Ternary diagram of the system water-cyclohexanone oxime-ammonium sulfate). 7p. 3 refs. MTWL: 765. (Text in Dutch).
Order from OTS or ETC $1.55 61-17259

Trans. of Chemické Listy (Czechoslovakia) 1953, v. 47, p. 1231-1233.

DESCRIPTORS: Cyclohexanones, Oximes, Ammonium radicals, Sulfates, *Phase studies.

Venus-Danilova, E.D.
ONDERZOEKINGEN OP HET GEBIED VAN DE ALDEHYDEN EN OXYALDEHYDEN VAN DE POLYMETHYLEENREEKS. I. DE OMZETTING VAN HEXAHYDROBENZALDEHYDE (Aldehyds and hydroxy aldehydes of the polymethylene series. I. Conversion of hexahydrobenzaldehyde). 12 p. 14 refs. MTWL: 534. (Text in Dutch).
Order from OTS or ETC $1.85 61-17146

Trans. of Zhurnal Obshchet Khimii (USSR) 1936, v. 6, p. 697-703.

DESCRIPTORS: *Aldehydes, Hydroxides, *Molecular isomerism.

Venus-Danilova, E.D.
ONDERZOEKINGEN OP HET GEBIED VAN DE ALDEHYDEN EN OXYALDEHYDEN VAN DE POLYMETHYLEENREEKS. IV. ISOMERE OMZETTINGEN VAN α -OXYCYCLOPENTYLFORMALDEHYDE (Aldehydes and hydroxy aldehydes of the polymethylene series. 4. Isomeric conversion of α-hydroxycyclopentylformaldehyde). 24 p. 27 refs. MTWL: 544. (Text in Dutch).
Order from OTS or ETC $1.93 61-17136

Trans. of Zhurnal Obshchet Khimii (USSR) 1936, v. 6, p. 1784-1795.

DESCRIPTORS: *Aldehydes, Hydroxides, *Molecular isomerism.

Venus-Danilova, E.D. and Kazimirova, V.F.
ONDERZOEKINGEN OP HET GEBIED VAN DE ALDEHYDEN EN OXYALDEHYDEN VAN DE POLYMETHYLEEN REEKS. VI. ISOMERE OMZETTINGEN VAN α -OXYHEXAHYDROBENZALDEHYDE. (Aldehydes and hydroxy aldehydes of the polymethylene series. VI. Isomeric changes of α-hydroxyhexahydrobenzaldehyde). 17 p. 22 refs. MTWL: 545. (Text in Dutch).
Order from OTS or ETC $1.85 61-17137

Trans of. Zhurnal Obshchet Khimii (USSR) 1937, v. 7, p. 2639-2648.

DESCRIPTORS: *Aldehydes, Hydroxides, *Molecular isomerism.

Vilyanskii, M. P., Paradnya, P. I. and others.
METHOD FOR PRODUCING CRYSTALLINE ACRYLAMIDE. [1961] 3p.
Order from RIS $5.00 RIS A-174

Trans. of Russian patent 136 362, cl. 12 0, 21, subscription group 50, submitted 21 June 60 under no. 670 913/23.

DESCRIPTORS: *Acrylamides, Amides, Production, Acrylonitrile, Sulfuric acid, Acids, Methylene blue, Chemical reactions

Vodrážka, Z.
ONDERZOEK VAN HET EVENWICHT BIJ DE HYDROLYSE VAN CYCLOHEXANONOXIME IN ZUUR MILIEU (Equilibrium in the acidic hydrolysis of cyclohexanoneoxime). 17p. 31 refs. MTWL: 762. (Text in Dutch).
Order from OTS or ETC $1.85 61-17255

Trans. of Chemické Listy (Czechoslovakia) 1953, v. 47, no. 7, p. 992-998.

DESCRIPTORS: *Cyclohexanones, Oximes, *Hydrolysis Acids, Chemical equilibrium.

Vuks, M.F. and Elfimov, V.I.
THE OPTICAL ANISOTROPY OF BENZENE AND CARBON DISULPHIDE MOLECULES DETERMINED FROM THE SCATTERING OF LIGHT IN SOLUTIONS. 7 p. 2 refs. MTWL: 661.
Order from OTS or ETC $1.55 61-17193

Trans. of Akademiya Nauk SSSR. Doklady, 1953, v. 92, no. 1, p. 29-32.

DESCRIPTORS: *Benzenes, *Carbon compounds, *Sulfides, *Reflection, Optics, Solutions, Stereochemistry.

Zappi, Enrique V. and Bouso, Oscar.
CONTRIBUTION OF THE KNOWLEDGE OF CYANOGEN HALIDES. VII. ACTION OF CYANOGEN CHLORIDE ON ALKALI SALTS OF CARBOXYLIC ACIDS. [1952] [16]p. 9 refs.
Order from SLA $1.60 61-18810

Trans. of Asociación Quimica Argentina. Anales, 1947, v. 35, p. 137-148.

DESCRIPTORS: *Cyanogen, *Halides, *Cyanogen chlorides, Chlorides, *Carboxylic acids, Acids, Salts, Chemical reactions. *Nitriles, Synthesis.

Zhuravlev, S.V.
AETHYLEEN-BIS-XANTHOGENATEN (Ethylene dixanthates). 6 p. 5 refs. MTWL: 439. (Text in Dutch).
Order from OTS or ETC $1.55 61-17068

Trans. of Zhurnal Prikladnoĭ Khimii (USSR) 1950, v. 23, no. 10, p. 1103-1105.

DESCRIPTORS: *Ethylene derivatives, *Sulfur compounds, Preparation, *Insecticides.

Physical Chemistry

Avgustinik, A.I. and Dzhansis, V.D.
METING VAN HET SPECIFIEKE OPPERVLAK VAN HOOGDISPERSE STOFFEN MET EEN TORSIEBALANS (Measuring the changes in the specific surface of highly dispersed materials by the torsion-balance method). 12 p. 7 refs. MTWL: 555. (Text in Dutch).
Order from OTS or ETC $1.85 61-17127

Trans. of Zhurnal Prikladnoĭ Khimii (USSR) 1951, v. 24, no. 4, p. 433-438.

DESCRIPTORS: *Torsion balance, *Surface properties, *Colloids, Measurement.

Balandin, A. A.
CATALYTIC LAYERS AND THEIR INFLUENCE ON THE ENERGY OF ACTIVATION. 8p. 15 refs. MTWL: 752.
Order from OTS or ETC $1.55 61-17261

Trans. of Akademiya Nauk SSSR. Doklady, 1954, v. 97, no. 4, p. 667-670.

DESCRIPTORS: *Catalysis, Energy, Chemical reactions, *Surface properties, *Catalysts.

Ballod, A.P., Patsevich, A.S., and others.
KATALYTISCHE ACTIVITEIT EN SELECTIVITEIT VAN ALUMOSILICATEN (Catalytic activity and selectivity of aluminosilicates). 8 p. 12 refs. MTWL: 504. (Text in Dutch).
Order from OTS or ETC $1.55 61-17180

Trans. of Akademiya Nauk SSSR. Doklady, 1951, v. 78, no. 3, p. 509-512.

DESCRIPTORS: *Alumina-silica catalysts, Selection, Effectiveness, Poisoning, Surface properties.

Beck, Fritz and Gerischer, Heinz.
THE MECHANISM OF ANODIC SOLUTION OF GERMANIUM IN ALKALINE SOLUTION. [1961] 27p. 26 refs.
Order from SLA $2.60 62-10016

Trans. of unidentified German mono. [Stuttgart] n.d.

DESCRIPTORS: *Germanium, Semiconductors, Electrolytes, Electrochemistry, Electrolysis, Electrodes, Anodes, Impurities

An investigation of the anodic dissolution rate as a function of the electrode potential, the OH^- concentration and the doping of germanium showed that the rate-determining step depends exponentially on the potential and the reaction order is one with respect to the OH^- ions and the holes. A reaction mechanism is proposed that makes more precise the dissolution mechanism assumed by D. R. Turner (J. Electrochem. Soc. 103: 252, 1956). (Author)

Beck, F. and Gerischer, H.
REDOX PROCESSES AT GERMANIUM ELECTRODES. [1961] [20]p. (10 figs. omitted) 15 refs.
Order from SLA $2.60 62-10119

Trans. of [Zeitschrift für Elektrochemie (West Germany) 1959, v. 63, no. 8, p. 943-950].
Another trans. is available from SLA mi$2.70, ph$4.80 as 60-16230, Mar 60, 27p.

DESCRIPTORS: *Semiconductors, Electrochemistry, *Electrodes, *Germanium, Properties, Oxidation reduction reactions, Analysis

For abstract see Technical Translations 4: 81, 1960.

Belbeoch, B., Piekarski, C. and Perio, P.
INFLUENCE OF THE CRYSTAL DIMENSIONS ON THE OXIDATION KINETICS OF UO_2. [1961] [15]p. 6 refs.
Order from SLA $1.60 61-20505

Trans. of J[ournal of] Nuclear Materials (Netherlands) 1961, v. 3, no. 1, p. 60-66.

DESCRIPTORS: Grains (Metallurgy), Oxidation, Diffusion, *Reaction kinetics, Oxides, Lattices, Deformation, *Crystal structure, *Uranium compounds, Phase studies, Temperature.

Bell, L.N.
INCREASED ABSORPTION OF LIGHT BY PLANT LEAVES IN THE PRESENCE OF CARBON DIOXYDE. 8 p. 3 refs. MTWL: 662.
Order from OTS or ETC $1.55 61-17194

Trans. of Akademiya Nauk SSSR. Doklady, 1953, v. 92, no. 1, p. 165-168.

DESCRIPTORS: *Plants, Carbon dioxide, Absorption, *Photosynthesis, Chlorophylls.

Blanter, M.E.
DE INVLOED VAN COBALT OP DE DIFFUSIE VAN KOOLSTOF IN AUSTENIET (Influence of cobalt on the diffusion of carbon in austenite), tr. by J.H. van Santen, 11 p. 5 refs. MTWL: 431 (Text in Dutch).
Order from OTS or ETC $1.55 61-17059

Trans. of Zhurnal Tekhnicheskoĭ Fiziki (USSR), 1950, v. 20, no. 8, p. 1001-1004.

DESCRIPTORS: *Austenite, *Carbon, Diffusion, *Cobalt.

Boreskov, G.K., Borisova, M.S., and others.
DE INVLOED VAN DE OMSTANDIGHEDEN BIJ DE BEREIDING OP DE STRUCTUUR VAN SILICAGEL (Effect of conditions of preparation on the structure of silica gels). 27 p. 25 refs. MTWL: 601. (Text in Dutch)
Order from OTS or ETC $2.39 61-17241

Trans. of Zhurnal Fizicheskoĭ Khimii (USSR) 1948, v. 22, p. 603-616.

DESCRIPTORS: *Silicon compounds, Dioxides, Preparation.

Boreskov, G.K. and Dzis'ko, V.A.
DE INVLOED VAN EEN POREUZE STRUCTUUR VAN KATALYSATOREN OP HUN ACTIVITEIT 1. DE HYDROLYSE VAN CHLOORBENZEEN OP SILICAGEL-MONSTERS VAN VERSCHILLENDE STRUCTUUR (Porosity and activity of catalysts. 1. Hydrolysis of chlorobenzene on silica gels of various structures). 18 p. 7 refs. MTWL: 566. (Text in Dutch).
Order from OTS or ETC $1.85 61-17118

Trans. of Zhurnal Fizicheskoĭ Khimii (USSR) 1950, v. 24, p. 1135-1146.

DESCRIPTORS: *Catalysis, Gels, Silicon Compounds, Dioxides, *Porosity, Hydrolysis, Benzenes, Chlorides

Chaltykyan, O.A.
OVER DE EIGENSCHAPPEN VAN CUPROCOMPLEXEN (Properties of cuprous complexes), 26 p. 34 refs. MTWL: 543. (Text in Dutch).
Order from OTS or ETC $2.37 61-17135

Trans. of Zhurnal Obshcheĭ Khimii (USSR), 1948, v. 18, p. 1626-1638.

DESCRIPTORS: *Complex compounds, *Copper compounds, Catalysts, Solutions.

Chebotarev, N.P.
VERDAMPING AAN HET GRONDOPPERVLAK BIJ LAGER GELEGEN GRONDWATERNIVEAU (Evaporation on the ground-surface at lower laying under ground water level). 5 p. 2 refs. MTWL: 449 (Text in Dutch).
Order from OTS or ETC $1.55 61-17056

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 71, no. 2, p. 275-276.

DESCRIPTORS: *Hydrology, *Water, Evaporation.

Chmutov, K.V.
SORPTIEVERSCHIJNSELEN IN CAPILLAIRE SYSTEMEN. II. (Sorption phenomena in capillary systems. II). 10 p. 4 refs. MTWL: 546 (Text in Dutch).
Order from OTS or ETC $1.55 61-17138

Trans. of Kolloidnyĭ Zhurnal (USSR) 1949, v. 11, p. 44-49.

DESCRIPTORS: *Adsorbents, *Porosity, Condensation.

Chernozhukov, N.
ADSORPTION OF RESINS BY WAX AND SOLIDIFICATION OF WAX-BEARING PRODUCTS. 16p. MTWL: 732.
Order from OTS or ETC $1.85 61-17277

Trans. of Neftyanoe i Slantsevoe Khozyaĭstvo (USSR) 1925, no. 4, p. 640-646.

DESCRIPTORS: *Resins, Adsorbents, *Waxes, Cooling, Petroleum, Crystallization.

Davtyan, O.K.
EEN GASELEMENT MET VAST ELECTROLYT (Gas cell with a solid electrolyte). 7 p. 2 refs. MTWL: 680. (Text in Dutch).
Order from OTS or ETC $1.55 61-17192

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1946, no. 2, p. 215-218

DESCRIPTORS: *Electrolytic cells, Gas, *Solids, Ceramic materials, Ionization, Heating, Melting, Oxygen electrodes.

Davtyan, O.K.
HET ONDERZOEK VAN VASTE ELECTROLYTEN VOOR GASELEMENTEN (Investigation of solid electrolytes for gascells). 13 p. MTWL: 679. (Text in Dutch).
Order from OTS or ETC $1.55 61-17191

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1946, no. 1, p. 107-114.

DESCRIPTORS: *Electrolytic cells, Gas, *Solids, Ceramic materials, Ionization, Heating, Melting, Oxygen electrodes.

Delimarskii, Yu. K. and Grigorenko, F. F.
DETERMINATION OF ELECTROMOTIVE FORCE OF POLARIZATION IN THE ELECTROLYSIS OF MELTED FLUORIDES [Opredelenie Elektrodvizhushchei Sily Polarizatsii pri Elektrolize Rasplavlennykh Ftoridov]. [1961] 6p. (2 figs. 3 tables omitted) 4 refs.
Order from SLA $1.10 62-10064

Trans. of Ukrain[skii] Khim[icheskii] Zhur[nal] (USSR) 1956, v. 22, no. 6 [p. 726-730].
Another trans. is available from LC or SLA mi$1.80, ph$1.80 as 60-23567, RTS-1471, Aug 60 [5]p.

DESCRIPTORS: Polarization, *Electrolysis, *Fluorides, Melting, Determination, *Electrochemistry.

A determination was made of the emf of polarization of fused individual fluorides of alkaline and alkali-earth metals (LiF, NaF, KF, MgF_2, CaF_2, SrF_2, BaF_2) and a series of fluorides in NaF as a solvent (ZnF_2-NaF, CdF_2-NaF, AlF_2-NaF, AlF_2-NaF, PbF_2-NaF, BiF_2-NaF, CrF_2-NaF, MnF_2-NaF, FeF_2-NaF, NiF_2-NaF, CoF_2-NaF). It is established that for some systems (MgF_2, CaF_2, BaF_2, ZnF_2-NaF CdF_2-NaF, PbF_2-NaF) the magnitudes of the emf of polarization are significantly different than the corresponding magnitudes of the decomposition potentials. This is explained by the irreversibility of processes by fleeting discontinuation of electrolysis. The anomaly of the emf of polarization at precrystallization temperature of the melt is established which depends upon the sharp change of electrochemical properties of the melt at a temperature near the fusion point. (Author)

Eizner, Yu. E.
THE RELATIONSHIP BETWEEN CONCENTRATION AND THE DIMENSIONS OF MACROMOLECULES IN SOLUTION. [1961] 11p.
Order from ATS $17.00 ATS-20N54R

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1961, v. 3, no. 5, p. 748-757.

DESCRIPTORS: *Molecules, *Solutions, Density

Epshteĭn, D.A. and Upolovnikov, I.S.
KATALYSATOREN VOOR DE AMMONIAKSYNTHESE (Catalysts for the synthesis of ammonia). 11 p. 3 refs. MTWL: 540. (Text in Dutch).
Order from OTS or ETC $1.55 61-17152

Trans. of Zhurnal Khimicheskoĭ Promyshlennosti (USSR) 1934, no. 3, p. 37-38.

DESCRIPTORS: *Ammonia, *Synthesis, *Catalysts, Poisoning.

Epshteĭn, D.A. and Upolovnikov, I.S.
KATALYSATORS VOOR DE AMMONIAKSYNTHESE (Catalysts for the synthesis of ammonia). 15 p. 4 refs. MTWL: 532. (Text in Dutch).
Order from OTS or ETC $1.85 61-17144

Trans. of Zhurnal Khimicheskoĭ Promyshlennosti (USSR) 1933, no. 2, p. 41-44.

DESCRIPTORS: *Ammonia, *Synthesis, Catalysts.

Epshteĭn, D.A., Chirkova, L.A., and Papulova, I.N.
DE TOPOCHEMISCHE CONVERSIE VAN NATRIUM- EN KALIUMCHLORIDE IN NITRATEN. BEHANDELING VAN VASTE CHLORIDEN MET VLOEIBAAR OF GASVORMIG STIKSTOFDIOXYDE. (Topochemical conversion of sodium and potassium chlorides into nitrates. Interaction of solid chlorides with liquid and gaseous nitrogen peroxide). 19 p. 25 refs. MTWL: 547. (Text in Dutch).
Order from OTS or ETC $1.85 61-17139

Trans. of Khimicheskaya Promyshlennost' (USSR), 1947, no. 4, p. 5-9.

DESCRIPTORS: *Chlorides, Sodium compounds, Potassium compounds, *Solids, *Nitrogen compounds, *Dioxides.

Ettinger, I.L.
SORPTIE VAN KOOLDIOXYDE DOOR MINERALE KOLEN (Sorption of carbon dioxide by mineral coal). 12 p. 6 refs. MTWL: 516. (Text in Dutch).
Order from OTS or ETC $1.55 61-17168

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1950, no. 5, p. 721-728.

DESCRIPTORS: *Coal, Adsorption, *Carbon dioxide.

Ettinger, I.L.
DE SORPTIE VAN METHAAN DOOR STEENKOLEN UIT HET KOEZNETS-BEKKEN (Sorption of methane by the hard coals of the Kuznets basin). 8 p. 4 refs. MTWL: 519. (Text in Dutch).
Order from OTS or ETC $1.55 61-17171

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1949, no.7, p. 986-990.

DESCRIPTORS: *Coal, Adsorption, *Methanes.

Ettinger, I.L.
DE SORPTIE VAN STIKSTOF DOOR STEENKOLEN (Sorption of nitrogen by hard coal). 7 p. 3 refs. MTWL: 520. (Text in Dutch).
Order from OTS or ETC $1.55 61-17172

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1949, no. 11, p. 1719-1722.

DESCRIPTORS: *Coal, Nitrogen. *Adsorption.

Fikentscher, Hans, Gerrens, Heinz, and Schuller, Helmut.
EMULSION POLYMERIZATION AND SYNTHETIC LATICES. [1961] 24p. 93 refs.
Order from SLA $2.60 61-20687

Trans. of Angewandte Chemie (West Germany) 1960, v. 72, no. 22 [p. 856-864].

DESCRIPTORS: *Colloids, *Polymerization, Chemical reactions, Particles, Stability, *Synthetic rubber.

During the emulsion polymerization with emulsifiers the reaction starts in the aqueous phase, in the beginning it occurs preponderantly in the emulsifier micelles, later on in the latex particles formed. Size and size distribution of the latex particles can be influenced by reaction conditions and the polymerization technique. The stability of the synthetic latices depends most of all upon the particle charge, the type of the protective colloids and the properties of the solvate-shells. (Author)

Furman, M.S.
HET MECHANISME VAN DE OXYDATIE VAN STIKSTOFOXYDE (Oxidation of NO).
7 p. 5 refs. MTWL:567.(Text in Dutch)
Order from OTS or ETC $1.55 61-17119

Trans.of Zhurnal Fizicheskof Khimii (USSR) 1944, v.18, p.386-388.

Descriptors: *Nitrogen Compounds, *Oxides, *Oxidation, Diffusion, Physical Chemistry.

Gal'pern, G.D.
DE WISSELWERKING TUSSEN ANORGANISCHE COMPLEXE VERBINDINGEN.EN KOOLWATERSTOFFEN (Interaction between inorganic complex compounds and hydrocarbons). 10 p. 9 refs. MTWL: 427. (Text in Dutch).
Order from OTS or ETC $1.55 61-17075

Trans. of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1937, p. 435-441.

DESCRIPTORS: *Hydrocarbons, *Complex compounds, Inorganic substances, Chemical reactions.

Grigorov, O. N. and Barabanshchikova, N. K.
ELECTROKINETIC PHENOMENA IN LIQUID FILMS ON SOLID SURFACES EXPOSED TO THE AIR. 8p. 6 refs. MTWL-747
Order from OTS or ETC $1.55 61-17267

Trans. of Akademiya Nauk SSSR. Doklady, 1953, v. 93, no. 1, p. 89-92

DESCRIPTORS: *Electroosmosis, Solids, Surfaces, Liquids, Films.

Isaenko, I.P.
WERKWIJZE VOOR HET DENITREREN VAN ZWAVELZUUR (Denitrating H_2SO_4) 9 p. MTWL: 529
(Text in Dutch).
Order from OTS or ETC $1.55 61-17161

Trans. of Koks i Khimiya (USSR) 1939, no. 12, p.36-38

DESCRIPTORS: *Sulfuric acid, Nitrogen compounds, Dioxides, Cleaning.

Ivanov, L.A. and Kossovich, N.L.
VELDMETHODE VOOR DE PHOTOSYNTHESEBEPALING IN EEN ASSIMILATIEKOLF (A field method for the determination of photosynthesis in assimilation flasks). 15 p. 8 refs. MTWL: 447. (Text in Dutch).
Order from OTS or ETC $1.85 61-17054

Trans. of Botanicheskiĭ Zhurnal (USSR) 1946, v. 31, no. 5, p. 3-12.

DESCRIPTORS: *Photosynthesis, Carbon dioxide, Processing.

Jenny, R. and Limido, G.
THE CHLOROMETHYLATION OF BENZENE CATALYZED BY AQUEOUS ZINC CHLORIDE SOLUTIONS. [1961] 12p. (6 figs. omitted) 18 refs.
Order from SLA $1.60 60-18508

Trans. of Chimie and Industrie (Belgique) [sic] 1958, suppl. 1, p. 608-613.

Portions of this report will not reproduce well.

DESCRIPTORS: *Benzenes, *Chlorides, *Methyl radicals, *Zinc compounds, Chlorides, Catalysts, Catalysis, Formaldehyde, Hydrochloric acid, Acids, Chemical reactions

This study of this reaction, conducted in the presence of anhydrous zinc chloride as catalyst, demonstrated the existence of an induction period. The duration depends on the degree of dehydration of the catalyst. It is completely avoided if aqueous solutions of the catalyst are used. The true catalyst of the chloromethylation, therefore, is zinc chloride dissolved in an aqueous medium. In running the reaction on benzene

with very concentrated non-miscible solutions of zinc chloride, hydrogen chloride and formaldehyde, 1,4-dichloromethylbenzene has been obtained quickly and in good yields. The reaction occurs in the aqueous phase. The concentration of zinc chloride has a marked influence on the reaction rate. (Author)

Keĭer, N.P. and Roginskiĭ, S.Z.
ONDERZOEK VAN DE HETEROGENITEIT VAN ACTIEVE OPPERVLAKKEN VOLGENS DE DIFFERENTIELE ISOTOOPMETHODE. 1. HET ACTIEVE OPPERVLAK VAN METALLISCH NIKKEL EN ZINKOXYDE (Investigation of the heterogeneity of active surfaces by the differential isotopic method. 1. The active surface of metallic nickel and of zinc oxide). 21 p. 10 refs. MTWL: 426. (Text in Dutch).
Order from OTS or ETC $1.87 61-17060

Trans. of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1950, no. 1, p. 27-38.

DESCRIPTORS: *Nickel, Zinc compounds, Oxides, Surface properties, Isotopes.

Keĭer, N.P.
ONDERZOEK VAN DE HETEROGENITEIT VAN HET OPPERVLAK VAN KATALYTISCH ACTIEF NIKKELOXYDULE (The heterogeneity of the surface of catalytically active nickel oxide). 8 p. 4 refs. MTWL: 536. (Text in Dutch).
Order from OTS or ETC $1.55 61-17148

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 72, p. 1071-1074.

DESCRIPTORS: *Nickel compounds, *Oxides, *Catalysts, Surface properties, Adsorption.

Kiperman, S. L.
DE KINETICA VAN DE AMMONIAKSYNTHESE IN TEGENWOORDIGHEID VAN ZUURSTOF OF WATERDAMP (Kinetics of the synthesis of ammonia in the presence of oxygen or water vapor). 24p. 26 refs. MTWL: 759. (Text in Dutch).
Order from OTS or ETC $1.93 61-17252

Trans. of Zhurnal Fizicheskoĭ Khimii (USSR) 1954, v.28, p. 390-401.

DESCRIPTORS: *Ammonia, Synthesis, Oxygen, Hydrogen, Catalysts.

Kodama, Hiroshi and Atarashi, Yuuji.
POLYMERIZATION OF PROPYLENE IN THE PRESENCE OF ETHERS AND AMINES WITH TRIETHYLALUMINUM-TITANIUM TRICHLORIDE. [1961] 13p. 18 refs.
Order from SA $16.00 SA Code-43

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 6, p. 1140-1145.

DESCRIPTORS: *Propenes, Polymerization, Ethers, Amines, Aluminum compounds, Ethyl radicals, Titanium compounds, Chlorides, Catalysts, Catalysis, Chemical reactions, Polymers, Molecular weight

Polymerization of propylene was carried out in n-heptane, in the presence of ether or amine with the aid of a catalyst of the triethylaluminum-titanium trichloride system. The effects of the addition agents upon the polymerization of propylene and the properties of the produced polypropylene were examined. The results showed that (1) polymerization takes place when the addition amount of ether or amine is less than 1 mol equivalent to triethylaluminum, but in general, no polymerization occurs when it is more than 1 mol equivalent; (2) the initial polymerization velocity is remarkably increased by addition of ether or amine, this effect being more prominently exhibited by amine than by ether; (3) addition of either ether or amine produces, in general, polypropylene of high molecular weight; and (4) polypropylene of high specific gravity and of high melting point can be produced by the appropriate selection of the kind and the amount of ether or amine added.

Korotkov, A. A. and Li, Tsung-Ch'ang.
CHANGES IN THE STRUCTURE AND CATALYTIC BEHAVIOR OF TITANIUM TRICHLORIDE AFTER HEAT TREATMENT, Pt. 2 of Effects of the Structure of Titanium Trichloride on the Stereospecificity of Catalysts. [1961] 11p. 6 refs.
Order from RIS $20.00 RIS G-314b

Trans. of Vysokomolekularnye Soedineniya (USSR) 1961, v. 3, no. 5, p. 691-698.

DESCRIPTORS: *Titanium compounds, *Chlorides, *Catalysts, Catalysis, Heat treatment, Crystal structure, Stereochemistry, X-ray diffraction analysis, Electron microscopy, Chemical analysis.

Korotkov, A. A. and Li, Tsung-Ch'ang.
EFFECTS OF PREPARATION CONDITIONS ON THE SPECIFICITY FOR THE POLYMERIZATION OF PROPYLENE FOR CATALYSTS BASED ON β-$TiCl_3$ + $Al(C_2H_5)_3$. Pt. 1 of Effects of the Structure of Titanium Trichloride on the Stereospecificity of Catalysts. [1961] 8p. 8 refs.
Order from RIS $14.00 RIS G-314a

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1961, v. 3, no. 5, p. 686-690.

DESCRIPTORS: *Propenes, Polymerization, *Titanium compounds, *Chlorides, Aluminum compounds, Ethyl radicals, *Catalysts, Catalysis, Preparation, Crystal structure, Stereochemistry, Polymers.

Krasnovskiĭ, A.A.
DOOR CHLOROPHYLL EN PHTALOCYANINE-MAGNESIUM GESENSIBILISEERDE OXYDATIE-REDUCTIEREACTIES, DIE GEPAARD GAAN MET EEN VERHOGING VAN DE VRIJE ENERGIE VAN HET SYSTEEM. (Oxidationreduction reactions involving an increase of free energy, photosensitized by chlorophyll and by magnesium phtalocyanin), tr. by J.H. van Santen. 6 p. 6 refs. MTWL: 438. (Text in Dutch).
Order from OTS or ETC $1.55 61-17067

Trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 61, no.1, p.91-94.

DESCRIPTORS: *Oxydation reduction reactions, Energy, *Chlorophylls, Magnesium, Phtalocyanines.

Krasnovskiĭ, A.A.
DE OVERDRACHT VAN WATERSTOF VAN ASCORBINEZUUR NAAR CODEHYDRASE. I. ONDER INVLOED VAN DOOR CHLOROPHYLL GEABSORBEERD LICHT (Transfer of hydrogen from ascorbid acid to codehydrogenase. I. under action of light, absorbed by chlorophyll), tr. by J.H. van Santen. 9 p. 6 refs. MTWL:437 (Text in Dutch).
Order from OTS or ETC $1.55 61-17066

Trans. of Akademiya Nauk SSSR. Doklady, 1949, v. 67, no.2, p. 325-328.

DESCRIPTORS: *Ascorbic Acid, Hydrogen, *Chlorophylls, *Light, *Absorption.

Kremnev, L. Ya. and Ravdel, A.A.
CONDITIONS FOR SPONTANEOUS DECOMPOSITION OF A DROPLET DURING EMULSIFICATION. 7 p. 6 refs. MTWL: 635.
Order from OTS or ETC $1.55 61-17207

Trans. of Akademiya Nauk SSSR. Doklady, 1953, v. 90, no. 3, p. 405-407.

DESCRIPTORS: *Colloids, *Drops, Deformation, Theory.

Kremnev, L.Ya.
EEN EENVOUDIGE EMULGERINGSMETHODE (Simple emulsification). 6 p. 7 refs. MTWL: 556. (Text in Dutch).
Order from OTS or ETC $1.55 61-17128

Trans. of Akademiya Nauk SSSR. Doklady, 1951, v. 79, no. 4, p. 655-657.

DESCRIPTORS: *Colloids, Preparation.

Kriss, A.E. and Rukina, E.A.
REDUCTION AND OXIDATION PROCESSES IN THE HYDROGEN SULPHIDE ZONE OF THE BLACK SEA. 31 p. 17 refs. MTWL: 428.
Order from OTS or ETC $2.- 61-17070

Trans. of Mikrobiologiya (USSR) 1949, v. 18, no. 5, p. 402-415.

DESCRIPTORS: *Hydrogen compounds, *Sulfides, Oxidation, Reduction, *Black sea, *Water, Chemical analysis.

Kurbatov, L.N.
DIELECTRISCHE EIGENSCHAPPEN VAN GEADSORBEERDE DAMPEN (Dielectric properties of adsorbed vapors). 7 p. MTWL: 572 (Text in Dutch).
Order from OTS or ETC $1.55 61-17104

Trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 63, p. 557-560

DESCRIPTORS: *Adsorption, *Vapors, *Dielectric Properties, Acetones, Water.

Leĭbush, A.G. and Shneerson, A.L.
RATE OF ABSORPTION. 16 p. 4 refs. MTWL: 609.
Order from OTS or ETC $1.85 61-17248

Trans. of Zhurnal Prikladnoĭ Khimii (USSR) 1950, v. 23, no. 11, p. 1176-1186.

DESCRIPTORS: Hydrogen compounds, Sulfides, Carbon dioxide, Ethanols, Amines, Solutions, *Absorption.

Leĭbush, A. and Bergo, G. Ya.
DE REACTIE VAN METHAAN MET STOOM. II. De SNELHEID VAN DE METHAAN-STOOM-REACTIE. (Reaction of methane with water vapor. II. Velocity of reaction between methane and water vapor). 18 p. 4 refs. MTWL: 514. (Text in Dutch).
Order from OTS or ETC $1.85 61-17165

Trans. of Zhurnal Prikladnoĭ Khimii (USSR) 1940, v. 13, p. 1003-1013.

DESCRIPTORS: *Methanes, *Water vapor, Chemical reactions, Velocity.

Lorents, A.K.
OVER DE AFHANKELIJKHEID DER WATERSTOF-OVERSPANNING VAN DE AARD VAN HET KATHODE-METAAL (Relation of hydrogen overvoltage to the nature of the metal of the cathode). 7 p. 18 refs. MTWL: 573. (Text in Dutch).
Order from OTS or ETC $1.55 61-17105

Trans. of Zhurnal Fizicheskoĭ Khimii (USSR) 1950, v. 24, p. 853-855.

DESCRIPTORS: *Cathodes (Electrolytic Cell), Hydrogen Ion Concentration, Brillouin Zones, Electric Potential.

Loshkarev, M.A. and Ozerov, A.M.
BIJDRAGE TOT HET PROBLEEM VAN DE VERLAGING VAN OVERSPANNING VAN WATERSTOF (Lowering of the overvoltage of hydrogen). 15 p. 6 refs. MTWL: 559. (Text in Dutch).
Order from OTS or ETC $1.85 61-17131

Trans. of Zhurnal Prikladnoĭ Khimii (USSR) 1951, v. 24, p. 597-603.

DESCRIPTORS: *Hydrogen, *Electric potential, *Cathodes, Electrostatic precipitation, Metals.

Miesserov, K.G.
THE ACIDITY OF ALUMISILICATES IN RELATION TO THEIR CATALYTIC ACTIVITY. 7 p. 8 refs. MTWL: 628.
Order from OTS or ETC $1.55 61-17230

Trans. of Akademiya Nauk SSSR. Doklady, 1952, v. 87, no. 4, p. 627-630.

DESCRIPTORS: *Alumina-silica catalysts, Acids, Catalysis.

Mishchenko, K. P., Flis, I. E., and Kustodin, V. A.
THERMODYNAMIC CHARACTERISTICS OF AQUEOUS SOLUTIONS OF HYDROGEN PEROXIDE AND ITS REACTIONS WITH CHLORINE AT VARIOUS TEMPERATURES, tr. by B. W. Kuvshinoff. 9 Sep 61, 6p. 15 refs. APL/JHU TG 230-T249.
Order from OTS $0.50 61-31675

Trans. of #Zhurnal Prikladnoi Khimii (USSR) 1960, v. 33, no. 12, p. 2671-2675.

DESCRIPTORS: *Thermodynamics, Heat of reaction, Heat of formation, Solutions, *Hydrogen compounds, *Peroxides, Temperature, *Chlorine, Chemical reactions

Temperature dependence equations for ΔH and ΔZ^{O} in reactions $H_{2G} + 0.5O_{2G} + e^{-} \rightleftharpoons HO_{2S}^{-}$, $Cl_{2G} + H_2O_{2S} \longrightarrow 2Cl_S^{-} + O_{2G} + 2H_S^{+}$, and $Cl_{2G} + HO_2^{-} \longrightarrow 2Cl_S^{-} +$

$H_S^+ + O_{2G}$ were obtained on the basis of thermodynamic studies of the reaction $H_2O_{2S} \longrightarrow H_2O_1 + 0.5O_{2G}$ at 5, 10, 25, and 35°. Values of ΔH, ΔZ^o, and ΔS^o were calculated for these temperatures and equilibrium states.

Natanson, G. L.
THE ELECTRIFICATION OF DROPS DURING ATOMIZATION OF LIQUIDS AS A RESULT OF FLUCTUATIONS IN THE ION DISTRIBUTION.
27 Oct 61 [19]p. 10 refs. MCL-1325.
Order from OTS or SLA $1.60 62-13581

Unedited rough draft trans. of Zhurnal Fizicheskoi Khimii (USSR) 1949 [v. 23] no. 3, p. 304-314.

DESCRIPTORS: *Liquids, Atomization, *Drops, Electrical properties, Dielectrics, Ions, Distribution, Probability, Electrolytes, Oils, Fatty acid esters, Ethanols, Amines, Electrical conductance.

A calculation of the magnitude of the fluctuation charges in liquids containing ions is given. The electrification of drops during atomization of liquids in the region of ion concentrations from 1×10^{-11} to 3×10^{-9} mole/liter for drops with radii from 0.5 to 2μ is studied. It is shown that the results obtained agree with the fluctuation theory of the origin of the charges on atomized drops. On the basis of the results obtained a new method of non-electrochemical determination of the ion concentration (the ionic strength) in dielectric liquids is proposed. (Author)

Nel'mark, I.E. and Khatset, F.I.
OVER DE PHASE-TOESTAND VAN DE STOF IN EEN ADSORPTIELAAG. (Phase state of a substance in the adsorbed layer). 9 p. 8 refs. MTWL: 527. (Text in Dutch).
Order from OTS or ETC $1.55 61-17159

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 74. p. 751-754.

DESCRIPTORS: *Adsorption, Adsorbents, Porosity, Phase transitions.

Ognev, B. I. and Uzun, A. T.
INFLUENCE OF THE WATER LEVEL IN AN EVAPORATION TANK ON THE RATE OF EVAPORATION (Vliyanie Polozheniya Urovnya Zhidkosti v Isparitel'noi Ustanovke na Skorost' Ispareniya) tr. by M. Slade. [1961] [8]p. (foreign text included) 1 ref. [CSIRO] Trans. no. 5280.
Order from OTS or SLA $1.10 61-28644

Trans. of Meteorologiya i Gudrologiya (USSR) 1960, no. 9, p. 41-43.

DESCRIPTORS: *Water tanks, *Depth indicators, *Evaporation, Wind, Velocity, Hydrology, Moisture, Surface temperatures, Gas flow

Analysis of experimental data indicates that as the water level in the tank sinks the rate of evaporation decreases. The higher the wind velocity the greater is the influence of a variable level on the rate of evaporation. With sinking water level in the tank the influence of the wind on the rate of evaporation increases at first, reaches a maximum, and subsequently decreases. The influence of the wind is at a maximum at a defined difference between the levels which we refer to as the "critical" difference. The value of the critical difference in the levels increases with increasing wind velocity.

Oreshko, V. F.
ONDERZOEK VAN DE OXYDATIE VAN MINERALE KOOL (The process of oxidation of coals). 11p. 6 refs. MTWL: 359. (Text in Dutch).
Order from O.T.S. or E.T.C. $1.55 61-17212

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk, Izvestiya, 1949, no.11, p. 1642-1648.

DESCRIPTORS: *Coal, *Oxidation, Combustion, Oxygen, Air.

Oreshko, V.F.
OXYDATIE VAN MINERALE KOLEN (Oxidation of coals), tr. by G.J.M. Fritschy. 12 p. 11 refs. MTWL: 360. (Text in Dutch).
Order from OTS or ETC $1.85 61-17213

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1949, no.2, p. 249-257.

DESCRIPTORS: *Coal, *Oxidation, Combustion, Oxygen, Air.

Oreshko, V.F.
DE "VOLUME-OXYDATIE" VAN STEENKOOL (Volume oxidation of hard coal). 7 p. 13 refs. MTWL: 604. (Text in Dutch).
Order from OTS or ETC $1.55 61-17244

Trans. of Akademiya Nauk SSSR. Doklady, 1952, v. 82. p. 135-138.

DESCRIPTORS: *Coal, *Oxidation, Velocity, Volume.

Osipov, I.P.
METHODE EN APPARATUUR VOOR DE CONTINUE DENITRERING VAN TECHNISCH ZWAVELZUUR (Denitration of commercial H_2SO_4). 9 p. MTWL: 528. (Text in Dutch).
Order from OTS or ETC $1.55 61-17160

Trans. of Koks i Khimiya (USSR), 1939, no. 12, p. 35-36.

DESCRIPTORS: *Sulfuric acid, Nitrogen compounds, Dioxides, Cleaning.

Pleskov, Yu. V.
REDUCTION REACTION ON A GERMANIUM CATHODE. [1960] 6p. 9 refs. MDF p. 141.
Order from OTS or SLA $1.10 62-13697

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1960, v. 130, no. 2, p. 362-365.

DESCRIPTORS: *Germanium, *Cathodes, Electrodes, Electrochemistry, Chemical reactions, Reaction kinetics, Electron transitions, Semiconductors, Electrons.

Injection coefficients (the fraction of valence electrons in the total current) were experimentally obtained which showed that both free and valence electrons are involved in the reduction reaction on a Ge electrode when $KMnO_4$, $K_3Fe(CN)_6$, KI_3, quinone, or $K_2Cr_2O_7$ are used as oxidizers. Reduction of H_2O_2 did not affect I_{coll} and therefore was not accompanied by hole injection. The electrodes were 6-mm-diam disks about 12-mm thick, prepared from (111) oriented single-crystal n-type Ge with a specific resistivity of 2.5 ohm-cm and a hole-diffusion length of 0.5 to 0.7 mm. The values of α lay between 0 and 1, and, except for the case of $Cr_2O_7^{2-}$, were independent of the reduction current. Values of α were influenced by the concentration of $K_3Fe(CN)_6$ and of $KMnO_4$, but not by that of KI: the α was very responsive to the state of the electrode surface. As the negative Ge potential increased near the hydrogen-evolution potential, the α started to drop. Polarization curves on platinum and on n-type Ge electrodes were wave shaped where the limiting current density, i_{lim}, was the same in both metals. (The curve of the $KMnO_4$ reduction by Ge contained two waves.) The curves of the reduction of $K_3Fe(CN)_6$, $K_2Cr_2O_7$, quinone, and H_2O_2 by hole Ge also contained one wave while the $KMnO_4$ curve had two where the magnitude of i_{lim} was the same as on the Pt and n-type Ge electrodes up to current densities of 20 ma/sq cm (up to 100 ma/sq cm for $K_3Fe(CN)_6$. The limiting current was proportional to $\sqrt{\omega}$.

Polukarov, Yu. M. and Gorbunova, K. M.
SOME PROBLEMS IN THE THEORY OF THE ELECTRODEPOSITION OF ALLOYS. I. METHODS OF CALCULATING THE SHIFT IN THE DISCHARGE POTENTIAL OF IONS AT THE EXPENSE OF THE DISPLACEMENT ENERGY DURING THE FORMATION OF AN ALLOY. [1961] 7p. 30 refs.
Order from OTS or SLA $1.10 61-20966

Trans. of Zhur[nal] Fiz[icheskoi] Khim[ii] (USSR) 1956, v. 30, no. 3, p. 515-521.
Another trans. is available from ATS $13.45 as ATS-76M44R [1960] 7p.

DESCRIPTORS: *Alloys, *Electrodeposition, Ions, Motion.

The methods are discussed for calculating the shift in the discharge potential of metallic ions taking place as a result of interaction of components during the formation of an alloy. The magnitude of the shift can be calculated directly from thermodynamic data, as well as from data on the free energy change obtained by measuring vapor pressure changes of the system, or from data on electromotive force of a suitably constructed circuit. The values of quantities of the energy of mixing of the components necessary for the calculations may be determined by the use of standard thermochemical methods, as well as from data obtained from experimentally constructed equilibrium diagrams using a method which is a reverse of that proposed in the literature for theoretical construction of diagrams from thermochemical data. Practical and convenient methods for changing from integral values of energy of mixing to differential values, which are necessary for evaluation of the processes taking place during the electrodeposition of an alloy on a cathode, are examined. (Author)

Polukarov, Yu. M. and Gorbunova, K. M.
SOME PROBLEMS IN THE THEORY OF THE ELECTRODEPOSITION OF ALLOYS. II. AN INVESTIGATION OF THE SHIFT IN THE DISCHARGE POTENTIAL OF IONS DURING THE FORMATION OF AN ALLOY. [1961] 7p. 8 refs.
Order from OTS or SLA $1.10 61-20967

Trans. of Zhur[nal] Fiz[icheskoi] Khim[ii] (USSR) 1956, v. 30, no. 4, p. 871-877.
Another trans. is available from ATS $13.65 as ATS-77M44R [1960] 7p.

DESCRIPTORS: *Alloys, *Electrodeposition, Ions, Motion.

It was established that the ennoblement (becoming more positive) of the deposition potential (ΔE_{alloy}) of a metal during its entry into the alloy coincides with the value calculated on the basis of data for the change in its partial thermodynamic potential. The possibility of using the data on the shift in deposition potentials for calculations in the reverse direction, i. e., for approximate computations of differential heats of solution of some unexplored systems is pointed out. An advantage of this method is the considerable simplification of the working procedure. The possibility of incorporating aluminum into the deposit during the deposition of nickel is demonstrated. (Author) (See also 61-20966)

Polukarov, Yu. M. and Gorbunova, K. M.
SOME PROBLEMS IN THE THEORY OF THE ELECTRODEPOSITION OF ALLOYS. III. CONDITIONS FOR THE EQUALIZATION OF POTENTIALS OF METAL SEPARATION AT THE EXPENSE OF ENERGY LIBERATED DURING THE FORMATION OF AN ALLOY. [1961] 4p. 2 refs.
Order from OTS or SLA $1.10 61-20968

Trans. of Zhur[nal] Fiz[icheskoi] Khim[ii] (USSR) 1956, v. 30, no. 4, p. 878-881.
Another trans. is available from ATS $8.00 as ATS-78M44R [1960] 4p.

DESCRIPTORS: *Alloys, *Electrodeposition, Metals, Separation, Energy, Metallurgical analysis.

The problem of the relationship between the magnitudes of the shift in the ion discharge potential of metals at the expense of energy of interaction during alloying and the equalization of deposition potentials of metals is examined. It is shown that even in the presence of considerable energy of interaction and shift in the deposition potentials of metals toward the more positive side, potential equalization may not even be observed if the magnitudes of the shift for the two components are of the same order. On the basis of an investigation of the dependence of the change in the free energy of the system during the formation of an alloy on its composition it is shown that the energy of interaction may lead to equalization of deposition potentials of metals only up to a certain definite concentration of the electronegative metal in the alloy. (Author) (See also 61-20967)

Polukarov, Yu. M. and Gorbunova, K. M.
SOME PROBLEMS IN THE THEORY OF THE ELECTRODEPOSITION OF ALLOYS. IV. OSCILLOGRAPHIC INVESTIGATION OF THE CATHODE POTENTIAL IN THE PROCESS OF DEPOSITION OF ALLOYS. [1961] 6p. 10 refs.
Order from OTS or SLA $1.10 61-20969

Trans. of Zhur[nal] Fiz[icheskoi] Khim[ii] (USSR) 1957, v. 31, no. 10, p. 2281-2287.
Other translations are available from LC or SLA mi$2.40, ph$3.30 as 59-19566 [1959] 13p. and from ATS $11.65 as ATS-79M44R [1960] 6p.

DESCRIPTORS: *Alloys, *Electrodeposition, Silver alloys, Mercury alloys, Cadmium alloys, Ions, Solutions, X-rays, Phase studies.

Polukarov, Yu. and Gorbunova, K. M.
SOME PROBLEMS IN THE THEORY OF THE ELECTRODEPOSITION OF ALLOYS. V. OSCILLOGRAPHIC INVESTIGATION OF THE CATHODE POTENTIAL IN THE PROCESS OF DEPOSITION OF AN ALLOY (THE SYSTEMS COPPER-ZINC, COPPER-LEAD, AND NICKEL-COBALT). [1961] 7p. 8 refs.
Order from OTS or SLA $1.10 61-20970

Trans. of Zhur[nal] Fiz[icheskoi] Khim[ii] (USSR) 1957, v. 31 no. 12, p. 2682-2689.
Another trans. is available from ATS as ATS-80M44R [1960] 7p.

DESCRIPTORS: *Alloys, *Electrodeposition, Copper alloys, Cobalt alloys, Nickel alloys, Zinc alloys, Lead alloys.
During the deposition of copper-lead and nickel-cobalt alloys, changes in potential that are observed have a large period of fluctuation, within which fluctuations of smaller period occur. The large periods of change in cathode potential noted in oscillograms obtained during the deposition of nickel-cobalt and copper-lead alloys correspond to the time for the formation of one layer in the deposits. In order to ascertain the nature of the variations in potential in the process of deposition of an alloy which is accompanied by the evolution of hydrogen, oscillograms were obtained for the process of discharge of ions of hydrogen on copper and zinc from a cyanide solution, and it was shown that the cathode potential varies periodically during the discharge of the hydrogen ions. The fluctuations in potential with a short period during the deposition of alloys are due to the evolution of hydrogen. No substantial difference was found in the nature of the changes in cathode potential during the process of discharge of ions with the formation of an alloy that can be related to the different types of fusion diagrams. (Author) (See also 61-20968)

Polukarov, Yu. M. and Gorbunova, K. M.
SOME PROBLEMS IN THE THEORY OF THE ELECTRODEPOSITION OF ALLOYS. VI. THE MECHANISM OF FORMATION OF SUPERSATURATED SOLID SOLUTIONS AND TWO-PHASE SYSTEMS IN THE ELECTROCRYSTALLIZATION OF ALLOYS. [1961] 8p. 28 refs.
Order from OTS or SLA $1.10 61-20971

Trans. of Zhur[nal] Fiz[icheskoi] Khim[ii] (USSR) 1958, v. 32, no. 4, p. 762-[768].
Other translations are available from ATS $13.75 as ATS-81M44R [1960] 8p. and from MT as MT Trans-61.

DESCRIPTORS: *Alloys, *Electrodeposition, Crystallization, Decomposition.

The kinetic conditions determining the formation on the cathode of one-phase solid solutions (supersaturated) and two-phase systems were studied. The structure of the deposits of alloys obtained under conditions where one of the metals is discharged with a limiting diffusion current was investigated. Under these conditions it is possible for equilibrium solid solutions and supersaturated solid solutions to appear. The possibility of the formation on the cathode of solid solutions or two-phase systems is determined by the work required to form the nucleus of a new phase, i.e., under the conditions of the electrolysis, by the value of the deposition overvoltage of the more electronegative metal. For the process of electrodeposition of an alloy taking place with little polarization, it is to be expected that solid solutions or supersaturated solid solutions will be produced even if, according to the equilibrium diagram, the components are mutually insoluble in the solid state. In the case of a process taking place with much polarization, it is possible to produce two-phase systems even when the alloy belongs to the systems yielding continuous series of solid solutions. (Author) (See also 61-20970)

Polyakov, M.V., Urizko, V.I., and Galenko, N.P.
OVER HET AL OF NIET BESTAAN VAN OPTIMALE OMSTANDIGHEDEN BIJ DE KATALYTISCHE OXIDATIE VAN AMMONIAK (The optimum conditions in the catalytic oxidation of ammonia). 8 p. 14 refs.
MTWL: 570. (Text in Dutch).
Order from OTS or ETC $1.55 61-17122

Trans. of Akademiya Nauk SSSR. Doklady, 1951, v. 77, p. 835-837.

DESCRIPTORS: *Ammonia, Catalysis, *Oxidation, Platinum, Physical Chemistry, Quartz.

Putilova, I.N., Gindin, L.G., and Moroz, L.M.
HET GEDRAG IN EEN CONSTANT ELECTRISCH VELD VAN ZEPEN, GEDISPERGEERD IN VLOEIBARE DIELECTRICA (Behavior of soap dispersions in liquid dielectrics in a constant electric field). 7 p.
MTWL: 418 (Text in Dutch).
Order from OTS or ETC $1.55 61-17100

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 71, no. 1, p. 81-83.

DESCRIPTORS: *Soap solutions, *Electrolysis, Colloids, Microscopy, Solvent action.

Ravikovich, S. D. and Solomko, V. P.
STUDIES OF THE VISCOSITIES AND CRITICAL TEMPERATURES OF SOME DEUTERO COMPOUNDS AND THEIR SOLUTIONS. [1961] [8]p. 12 refs.
Order from OTS or SLA $1.10 61-27801

Trans. of Ukrain[skii] Khim[icheskii] Zhur[nal] (USSR) 1958, v. 24, no. 1, p. 7-12.

DESCRIPTORS: *Deuterated compounds, Water, Heavy water, Butanols, Acetic acid, Acids, Propanols, Viscosity, Temperature, Deuterium, Hydrogen, Liquids, Molecular structure, Physical properties.

The viscosity and critical temperatures of some deutero compounds were studied. Replacement of hydrogen by deuterium results in a decrease in the critical temperature and the viscosity of liquids. The previously proposed theorems on relation of viscosity to critical temperature were confirmed. The viscosity isotherms are linear if the components have similar molecular structures and display deviations from additivity if the components have different molecular structures. (Author) (See also 59-16217, 61-27879)

Rienäcker, Günther.
CONCERNING THE CATALYTIC PROPERTIES OF OXIDIC CO-CATALYSTS (Zur Kenntnis der Katalytischen Eigenschaften von Oxydischen Mischkatalysatoren). [1961] 18p. (foreign text included) 34 refs.
Order from SLA $1.60 61-10405

Trans. of Chem[ische] Techn[ik] (East Germany) 1959, v. 11, no. 5, p. 246-250.

DESCRIPTORS: Catalysis, *Catalysts, Oxides, Mixtures, Intensity, Reduction, Semiconductors, Additives, Chemical properties, Solids, Spinel, Valence, Adsorption, Crystallization, Lattices, Surfaces, X-rays.

Shapatina, E.A., Kalyuzhnyĭ, V.V., and Chukhanov, Z.F.
DE SNELHEID VAN DE AFSCHEIDING DER VLUCHTIGE STOFFEN BIJ DE THERMISCHE ONTLEDING VAN DE ORGANISCHE SUBSTANTIE VAN EEN BRANDSTOF (Rate of evolution of volatile substances in the thermal decomposition of the organic mass of coal). 8 p. 3 refs. MTWL: 539. (Text in Dutch).
Order from OTS or ETC $1.55 61-17151

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 72, p. 869-872.

DESCRIPTORS: *Coal, Heating, Combustion, *Pyrolysis.

Shekter, A.B. and Tret'yakov, I.I.
ELECTRON-MICROSCOPIC STUDY OF THE SURFACE CHANGES IN SOLID CATALYSTS DURING THE CATALYTIC PROCESS. 12 p. 5 refs. MTWL: 637.
Order from OTS or ETC $1.85 61-17209

Trans. of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1953, no. 3, p. 442-447.

DESCRIPTORS: *Catalysts, Surface conditions, Electron microscopy, Metallic crystals.

Sosinskiĭ, M. L.
INVESTIGATION INTO THE DIMENSIONS AND SHAPES OF BENTONITE HYDROSOL PARTICLES BY MEANS OF DYNAMIC AND ELECTRIC BIREFRINGENCE. 9p. 4 refs. MTWL: 610.
Order from OTS or ETC $1.55 61-17249

Trans. of Kolloidnyĭ Zhurnal (USSR) 1952, v. 14, no. 3, p. 192-196.

DESCRIPTORS: *Bentonite, Colloids, Magnetic-optic rotation, Particles.

Spryskov, A.A.
ONDERZOEK VAN DE SULFONERINGSREACTIE II. DE INVLOED VAN DE TIJD EN VAN DE OVERMAAT TE SULFONEREN REAGENS OP HET REACTIEVERLOOP (Sulfonation reaction. II. Influence of time and excess of the sulfonation reagent on the process of reaction). 15 p. 9 refs. MTWL: 531. (Text in Dutch)
Order from OTS or ETC $1.85 61-17143

Trans. of Zhurnal Obshcheĭ Khimii (USSR) 1944, v. 14, p. 833-841.

DESCRIPTORS: *Sulfonates, Chemical reactions, *Naphthalenes, Benzenes.

Svyatoshenko, A. T. and Nekrasov, A. S.
THE ADSORBABILITY OF INDIVIDUAL ORGANIC SULPHUR COMPOUNDS TO SILICA GEL. 7p. 1 ref. MTWL: 754.
Order from OTS or ETC $1.55 61-17263

Trans. of Akademiya Nauk SSSR. Doklady, 1954, v. 97, no. 1, p. 95-98.

DESCRIPTORS: *Sulphur compounds, Organic compounds, Silicon Compounds, Hydroxides, Colloids, *Adsorption.

Temkin, M.I.
DE KINETICA VAN DE AMMONIAKSYNTHESE BIJ HOGE DRUKKEN (Kinetics of ammonia synthesis under high pressures). 23 p. 16 refs. MTWL: 523 (Text in Dutch).
Order from OTS or ETC $1.89 61-17155

Trans. of Zhurnal Fizicheskoĭ Khimii (USSR) 1950, v. 24, p. 1312-1325.

DESCRIPTORS: *Ammonia, *Synthesis, High pressure research, Chemical reactions, Theory.

Tikhomirova, N.N. and Voevodskiĭ, V.V.
DE REACTIVITEIT VAN VRIJE ALKYL-RADICALEN (Reactivity of free alkyl radicals). 8 p. 8 refs. MTWL: 511. (Text in Dutch).
Order from OTS or ETC $1.55 61-17163

Trans. of Akademiya Nauk SSSR. Doklady, 1951, v. 79, no. 6, p. 993-996.

DESCRIPTORS: *Alkyl radicals, *Free radicals, Chemical reactions, Energy.

Torikov, D.M.
THE REDUCTION IN RATE OF FILTRATION OF POLAR OILS THROUGH A POROUS MEDIUM. 5 p. 2 refs. MTWL: 623.
Order from OTS or ETC $1.40 61-17225

Trans. of Akademiya Nauk SSSR. Doklady, 1952, v. 84, no. 6, p. 1195-1196.

DESCRIPTORS: Porous filters, *Mineral oils, Oxidation.

Tsiklis, D.S.
THE LIMITED MUTUAL SOLUBILITY OF GASES IN THE SYSTEM AMMONIANITROGEN AT HIGH PRESSURES. 6 p. 8 refs. MTWL: 621
Order from OTS or ETC $1.55 61-17223

Trans. of Akademiya Nauk SSSR. Doklady, 1952, v. 86, no. 5, p. 993-995.

DESCRIPTORS: Gases, Solubility, High pressure research, *Nitrogen, *Ammonia.

Tsiklis, D.S.
THE LIMITED MUTUAL SOLUBILITY OF GASES IN THE SYSTEMS HELIUM-AMMONIA AND HELIUM-CARBON DIOXIDE AT HIGH PRESSURES. 5 p. 7 refs. MTWL: 622.
Order from OTS or ETC $1.40 61-17224

Trans. of Akademiya Nauk SSSR. Doklady, 1952, v. 86, no. 6, p. 1159-1161.

DESCRIPTORS: Gases, Solubility, High pressure research, *Helium, *Carbon dioxide.

Tyurayaev, I. Ya., Tsailingol'd, A. L., and Builov, A. B.
DEGREE OF GAS MIXING IN A REACTOR WITH A FLUIDIZED BED OF FINE-GRAINED CATALYST. [1961] 7p.
Order from ATS $9.25 ATS-16N55R

Trans. of #Zhur[nal] Priklad[noi] Khim[ii] (USSR) 1961, v. 34, no. 3, p. 558-564.

DESCRIPTORS: *Fluidized solids, *Catalysts, Gases, Mixtures.

Varshavskiĭ, Ya. M. and Shatenshteĭn, A. I.
ISOTOPE EXCHANGE OF HYDROGEN IN HYDROCARBONS IN A MEDIUM OF LIQUID DEUTERIUM FLUORIDE. 7p. 11 refs. MTWL: 744
Order from OTS or ETC $1.55 61-17274

Trans. of Akademiya Nauk SSSR. Doklady, 1954, v. 95, no. 2, p. 297-299.

DESCRIPTORS: *Exchange reactions, *Deuterium, Solutions, Fluorides, Boron compounds, Benzenes.

Vereshchinskiĭ, I.V.
EEN METHODE TOT HET BEWAREN VAN GEISOLEER DE CHLOROPLASTEN WAARBIJ GEEN VERANDERING OPTREEDT IN HUN FOTO-CHEMISCHE ACTIVITEIT (Method of storing chloroplasts without changing their photochemical activity). 4 p. 3 refs. MTWL: 503. (Text in Dutch).
Order from OTS or ETC $1.55. 61-17179

Trans. of Biokhimiya (USSR), 1951, v.16, no.4, p. 350-351.

DESCRIPTORS: *Storage, Control, *Photosynthesis, *Chlorophylls, Plant pigments, Effectiveness, Beets, Colorimetry.

Vol'kenshteĭn, F.F.
ELECTRONEN-THEORIE VAN DE PROMOTERING EN VERGIFTIGING VAN IONENKATALYSATOREN. (Electron theory of promoting and poisoning ionic catalysts). 33 p. 6 refs. MTWL: 606 (Text in Dutch).
Order from OTS or ETC $2.47 61-17246

Trans. of Zhurnal Fizicheskoĭ Khimii (USSR) 1948, v. 22, p. 311-330.

DESCRIPTORS: *Catalysts, Electrons, Theory, Semiconductors.

Volodin, P.F.
HET KRIMPEN VAN COKES TIJDENS DE COKESVORMING (The shrinking of coke during its forming). 14 p. 11 refs. MTWL: 522. (Text in Dutch).
Order from OTS or ETC $1.85 61-17154

Trans. of Akademiya Nauk. Izvestiya, 1950, no. 7, p. 1024-1033.

DESCRIPTORS: *Coal, Distilling plants, Processing, Pyrolysis.

Yatsimirskiĭ, K.B. and Grafova, Z.M.
THERMOCHEMISTRY OF NICKEL-AMMONIA COMPLEXES IN AN AQUEOUS SOLUTION. 11 p. 8 refs. MTWL: 631.
Order from OTS or ETC $1.55 61-17203

Trans. of Zhurnal Obshcheĭ Khimii (USSR) 1952, v. 22, no. 10, p. 1726-1731.

DESCRIPTORS: *Complex compounds, *Nickel compounds, *Ammonia, Solutions, Thermochemistry, Thermodynamics.

Yatsimirskiĭ, K. B. and Shutov, A. A.
THE THERMOCHEMISTRY OF SOME IODIDE COMPLEXES. 10p. 6 refs. MTWL: 749.
Order from OTS or ETC $1.55 61-17269

Trans. of Zhurnal Fizicheskoĭ Khimii (USSR) 1954, v. 28, no. 1, p. 30-35.

DESCRIPTORS: *Iodides, Complex compounds, *Thermochemistry, Chemical equilibrium.

Zabolotskiĭ, T.V.
DE ONBRUIKBAARHEID VAN DE KINETISCHE VERGELIJKING VAN BODENSTEIN VOOR DE TOEPASSING OP DE OXYDATIE VAN STIKSTOFOXYDE ONDER DYNAMISCHE OMSTANDIGHEDEN (Inapplicability of Bodenstein's kinetic equation to the reaction of oxidation of nitric oxide under dynamic conditions). 9 p. 7 refs. MTWL: 569 (Text in Dutch).
Order from OTS or ETC $1.55 61-17121

Trans. of Zhurnal Obshcheĭ Khimii (USSR) 1950, v. 20, p. 1394-1398

DESCRIPTORS: * Nitrogen Compounds, *Oxides, *Oxidation, Physical Chemistry.

EARTH SCIENCES

Lukyanov, V. S. and Golovko, M. D.
CALCULATION OF THE DEPTH OF FREEZE IN SOILS, CHAPS. 1-2 (Raschet Glubiny Promerzaniya Gruntov). [1961] [200]p.
Order from OTS or SLA $13.50 61-20440

Trans. from [Vsesoyuznyi Nauchno-Issledovatel'skii Institut Transportnogo Stroitel'stva. Trudy] (USSR) 1957, v. 23.

DESCRIPTORS: *Freezing, *Soils, *Depth indicators, Mathematical analysis, Moisture, Determination, Specifications, Heat transfer, Hydrology, Foundations (Structures), Snow, Hydraulic systems, Integrators, Buildings

Contents:
The mathematical theory of the freezing of moist soils
The determination of the depth of freezing in soils according to TsNIIS specifications

Climatology and Meteorology

QUESTIONS OF CLOUD PHYSICS AND ACTIVE MODIFICATIONS. 2 Nov 61 [133]p. 67 refs. MCL-1340
Order from OTS or SLA $10.50 62-13579

Unedited rough draft trans. of Glavnaya Geofizicheskaya Observatoriya [Leningrad]. Trudy (USSR) 1960, no. 104[166] p. 3-95.

DESCRIPTORS: *Meteorology, Convection, *Clouds, Growth, Determination, Moisture, Height finding, Temperature, Thickness, *Cumulus clouds, Microstructure, Crystallization, Geophysics, *Precipitation, Hail, Raindrops, Intensity, Physical properties, Evaporation, *Artificial precipitation, Silver, Silver compounds, Copper compounds, Iodides, Nitrates, Colloids, Effectiveness, Water, Fog, Ice fog, Scattering, Acoustics, Ultrasonic radiation, Frequency, *Atmospheric sounding, Instrumentation, Meteorological instruments, Airborne.

Contents:
Calculating the rate of vertical development of convective clouds, by N. S. Shiskin (ATS-37N52R, $15.50)
The amount and intensity of precipitation from convective clouds, by Yu. A. Barukova and others (ATS-38N52R, $13.50)
Changes in the microstructure of convective clouds during the fall of precipitation, by M. A. Khimach and N. S. Shishkin (ATS-39N52R, $17.60)
Data on the crystallization temperature of the tops of cumulus congestus clouds in various physicogeographic regions, by A. P. Chuvaev (ATS-40N52R, $15.15)
Certain features of the solid phase of water in the atmosphere at low negative air temperatures, by F. Ya. Klinov (ATS-41N52R, $11.50)
Sounding of the atmosphere using the TU-104 airplane, by G. M. Zabrodskii and others (ATS-42N52R, $18.00)
The study of the water resources of clouds of the warm half-year in the Lake Sevan Basin, by A. P. Chuvaev (ATS-43N52R, $14.25)
The use of colloidal solutions for the seeding of supercooled clouds and fog, by P. N. Krasikov (ATS-44N52R, $7.35)
Results of laboratory experiments on the ice-forming activity of certain substances in supercooled fog, by P. N. Krasikov and others (ATS-45N52R, $10.65)
The influence of the frequency and intensity of acoustic vibrations on the rate of dissipation of fog, by N. P. Tverskoi (ATS-46N52R, $12.50)

Translations of single articles are available from ATS.

Borovikov, A. M., Kostarev, V. V., and Mazin, I. P.
APPLICATION OF RADAR TO THE STUDY OF CLOUD STRUCTURE. [1961] 4p.
Order from ATS $8.25 ATS-49N57R

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1961, v. 140, no. 3, p. 575-578.

DESCRIPTORS: *Clouds, Radar analysis.

Geodesy

Molodenskii, M. S., Eremeev, V. F., and Yurkina, M. I.
METHODS FOR STUDY OF THE EXTERNAL GRAVITATIONAL FIELD AND FIGURE OF THE EARTH (Metod Izucheniya Vneshnego Gravitatsionnogo Polya i Figury Zemli). [Jan 62] 248p. 83 refs. PL-480 Comm.
Order from OTS $2.50 61-31207

Trans. of Tsentral'nyi Nauchno-Issledovatel'skii Institut Geodezii, Aeros"emki i Kartografii. Trudy (USSR) 1960, no. 131.

DESCRIPTORS: *Earth, Configuration, *Gravity, *Geodesics, Geodetic astronomy, Astronomy, Numerical analysis, Integration, Geometry, Trignometry, Errors, Earth models

Contents:
Geometrical method of studying the figure of the physical surface of the earth
Normal gravitational field of the earth
Geoid of the regularized earth
Geoid of the nonregularized earth
The external gravitational field and the figure of the earth
Astrogravimetric leveling
Methods of numerical integration and evaluation of the accuracy of gravimetric calculations
Appendix (examples of calculations and models)

Shershen', A. I.
AERIAL PHOTOGRAPHY, tr. by Y. Rosenberg. 1961, 344p. 36 refs. PL-480 Int.
Order from OTS $3.50 61-11436

Trans. of mono. Aerofotos"emka, Moscow, 1958.

DESCRIPTORS: Mapping, *Aerial photography, Textbooks, Instruction manuals, History, *Aerial cameras, Calibration, Vibration, Countermeasures, Photographic lenses, Lenses, *Camera shutters, Photograhpic films, Films, Transportation

Contents:
The history of the development of aerial photography
The aerial camera
The aerial camera projecting system
Aerial-camera shutters
Methods of transporting and flattening aerial film

Devices and means of preventing aerial camera vibrations
The most important types of cartographic aerial cameras
Calibrating, checking and determining the constants of aerial cameras
General basis of aerial photography
Aerial photography procedures
Determining the outer-orientation elements of the aerial camera during flight
Errors in carrying out the aerial photo mission

Geology

HYDROGEOLOGY AND ENGINEERING GEOLOGY, 1959, NO. 6: SELECTED ARTICLES. 2 Aug 61 [45]p. JPRS:4637.
Order from OTS or SLA $4.60 61-27962

Trans. of Shui Wen Ti Chih Kung Ch'eng Ti Chih (Chinese People's Republic) 1959, no. 6, p. 34-36 and 49-60.

DESCRIPTORS: *Geology, *Hydrology, Engineering.

Contents:
Preliminary knowledge in stimulating and organizing a high-tide of production, by Ch'u Shao-i and Chang Wen-yen
On overcoming deficiencies of technical forces and material implements, by Chiang Ming-ta
Opening speech of the second National Hydrogeological and Engineering Geology Work Conference of the Ministry of Geology, by Ho Ch'ang-kung
Achieve the great leap forward in hydrogeology and engineering geology, by Chou Kang
On the hydrogeological work situation of the Ministry of Geology in CPR and direction of future developments, by T. F. Adzhabiev.

INTERNATIONAL GEOLOGY REVIEW, VOL. 3, NO. 4, P. 279-371. Apr 61, 1v. 346 refs.
Order from AGI $5.00, $55.00/year

Consists of an original article by Peter Dehlinger and trans. of Mineralogicheskii Sbornik (USSR) 1959, v. 13, p. 158-177 and 220-234.

DESCRIPTORS: *Geology, Periodicals, Earthquakes, Seismic waves, Propagation, Reflection, Refraction, Absorption, Diffraction, Seismographs, Explosions, Instrumentation, Clays, Minerals, Black Sea, Rock, Sapphires, Scientific reports, Bibliography, Translations.

Contents:
Seismology in the USSR, by Peter Dehlinger
Mineralogy of clays from the Odessa coast of the Black Sea, by E. F. Sidorenko
Metasomatic zonality and genesis of sapphirine-bearing rocks in the Bug region, by E. B. Nalivkina
Reference section
Recent translations in geology.

INTERNATIONAL GEOLOGY REVIEW, VOL. 3, NO. 11, P. 975-1119. Nov 61, 1v. 85 refs.
Order from AGI $5.00, $55.00/year

Trans. of [Chishitsugaku Zasshi] (Japan) 1959, v. 65, no. 766, p. 406-411; and Sovetskaya Geologiya (USSR) 1960, no. 4, p. 57-65, 120-123; no. 5, p. 32-46, 97-115; no. 6, p. 3-25, 78-92, 111-128, 137-139.

DESCRIPTORS: *Geology, Periodicals, History, Japan, Coal, Classification, Deposits, Ores, Geophysical prospecting, Geochemistry, Sedimentation, Siberia, Thermodynamics, Rock, Geological time, Paleoecology, Mapping, Radio waves, Hydrology, Well logging.

Contents:
Recent studies of the paleozoic group of Japan, by Haruyoshi Fujimoto
Sovetskaya Geologiya (Soviet Geology) in translation, 1960, nos. 4, 5, 6: contents and translation availability
On classification and nomenclature of coal microcomponents for technological purposes, by A. B. Travin
The gas geyser of western Turkmenia and the mechanism of its activity, by M. I. Subbota
Metallometric surveying in mountainous areas based on alluvial deposits, by A. P. Solovov and N. Ya. Kumin
Thermal properties of mesozoic and cenozoic sediments in the eastern part of the West Siberian lowland, by V. A. Koshlyak
Absolute age of mesozoic and cenozoic volcanic and intrusive rocks in the Olga-Tetyukhino area, by E. V. Bykovskaya and others
Magmatism of the eastern Sayan, by A. I. Suloev
Radio-wave method of geological mapping, by A. D. Frolov
Thermal waters of the paleozoic and mesozoic in the western part of the Crimean peninsula by M. M. Germanyuk
Employment of gas logging in prospecting operations, by G. A. Mogilevskii
The determination of ground-water discharge in alluvial deposits, by N. N. Bindeman
Review section
Reference section.

Gorbunova, L. I.
RESULTS OF A COMPARATIVE INVESTIGATION OF GLAUCONITES OF DIFFERENT FACIES. 9 p. MTWL: 624.
Order from OTS or ETC $1.55 61-17226

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 70, no. 5, p. 867-870.

DESCRIPTORS: Sedimentation, Rock, *Paleoecology, *Silicates.

Gulyaeva, L. A.
DISTRIBUTION OF BORON IN RECENT ORGANOGENIC DEPOSITS. [1961] 1p. 1 ref.
Order from OTS or SLA $1.10 61-20308

Abstract trans. of [Akademiya Nauk SSSR]. Comptes Rendus (Doklady) de l'Academie des Sciences de l'U.R.S.S., 1942, v. 37, no. 1, p. 28-31.

DESCRIPTORS: *Boron, Distribution, Ash, Hydrocarbons, Coal, Oils, Sources, Chemical analysis, Solvent extraction, Deterioration, Algae, Microorganisms.

Hsiung, I., Hsi, Ch'eng-fan and others.
SEDIMENTATION CONDITIONS AND SOIL DEVELOPMENT IN THE VICINITY OF LIN-CH'ING IN SHANTUNG. 15 Sep 61 [18]p. JPRS: 4975.
Order from OTS or SLA $1.60 61-28568

Trans. of T'u Jang Hsüeh Pao (Chinese People's Republic) 1956, v. 4, no. 2, p. 117-126.

DESCRIPTORS: *Sedimentation, *Soils, China, Water, Geology.

Petrova, Yu. N. and Karpova, I. P.
THE CHEMICAL COMPOSITION OF HYDROCARBONS OF DISPERSED ORGANIC MATERIAL IN SEDIMENTARY ROCKS. 6p. 2 refs. MTWL: 742.
Order from OTS or ETC $1.55 61-17272

Trans. of Akademiya Nauk SSSR. Doklady, 1954, v. 96. no. 2, p. 331-334.

DESCRIPTORS: *Rock, Sedimentation, *Hydrocarbons, Organic materials, Colloids.

Teodorovich, G. I.
SEDIMENTARY GEOCHEMICAL FACIES HAVING A PROFILE WITH AN OXIDATION-REDUCTION POTENTIAL. PROBABLE OIL-GENERATING TYPES. 6p. 8 refs. MTWL: 750.
Order from OTS or ETC $1.55 61-17270

Trans. of Akademiya Nauk SSSR. Doklady, 1954, v. 96, no. 3, p. 609-612.

DESCRIPTORS: *Geochemistry, Oxidation-reduction reactions, Electric potential, Rock, *Mineral oil, Iron compounds, Minerals.

Mineralogy

Koetter, Klaus.
MICROSCOPIC ANALYSIS OF COAL THROUGH MEASUREMENT OF REFLECTION WITH PHOTOMULTIPLIER (Die Mikroskopische Reflexionsmessung mit dem Photomultiplier und ihre Anwendung auf die Kohlenuntersuchung). [1961] 26p. 26 refs.
Order from SLA $2.60 61-20052

Trans. of Brennstoff-Chemie (West Germany) 1960, v. 41, no. 4, p. 263-272.

DESCRIPTORS: *Coal, Measurement, *Reflection, *Photomultipliers, Microscopes, Carbonization, Petrology, Light, Refractive index, Coke, Oxidation, Polarization, Optical instruments, Geology.

The report describes a device for photoelectric measurement of reflectivity which consists of a microscope with an integrally mounted photomultiplier, together with necessary auxiliary units such as voltage stabilizers, galvanometer and others. The device has the advantage over other instruments of making possible photometric measurement of microparticles, only a few μ in size, with greater accuracy and in less time. This is particularly advantageous in statistical analyses. In the field of coal petrography, the device can be used for carbonization measurements which are not affected by the maceral composition and mineral content, for objective analysis of coal types, and for other specialized investigations. (Author)

Luther, Horst, Abel, Otto and others.
GRAVIMETRIC AND VOLUMETRIC MEASUREMENTS DURING THE DEGASIFICATION OF COAL (Gravimetrische und Volumetrische Messungen sum Entgasungsverhalten von Kohlen). [1961] 13p. 6 refs.
Order from SLA $1.60 61-20053

Trans. of Brennstoff-Chemie (West Germany) 1960, v. 41, no. 9, p. 257-263.

DESCRIPTORS: Gravimetric analysis, Volumetric analysis, Measurements, *Degasification, *Coal, Peat, Coke, Decomposition, Coal tar, Methanes, Hydrogen, Temperature, Intensity, Chemical analysis.

The gravimetric observation of the degasification of peats, brown and bituminous coal and the volumetric measurements at different carbonized bituminous coals showed discrete decomposition maxima within the areas of the tar-, methane-, and hydrogen decomposition to which chemical groupings with certain decomposition energies correspond. This opinion is confirmed by the analysis of the decomposition products and by examinations of pretreated coals. The intensity ratio of the degasification ribbons within temperatures from 350 to 500° is of specific interest for the properties of coke-coals. (Author)

Zvyagin, B.M., Rozenbaum, R.B. and others.
BIJDRAGEN TOT DE THEORIE VAN HET MALEN VAN GESTEENTEN. OVER DE MATE VAN ONTSLUITING VAN KORRELS MINERAAL BIJ HET FIJNMALEN. (Theory of rock crushing. Division of the particles of the products of crushing into two fractions and the calculation of the average composition of these fractions). 15 p. MTWL: 524. (Text in Dutch).
Order from OTS or ETC $1.85 61-17156

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1950, no. 7, p. 1062-1070.

DESCRIPTORS: *Rock, Minerals, *Ball mills, Theory.

ENGINEERING

Mikhailovskii, V. N., Ivanov, S. K., and Ustimenko, E. S.
INSTRUMENT FOR REMOTE AUTOMATIC REPEATED MEASUREMENT OF THE INCLINATION ANGLE AND AZIMUTH OF A BORING AXIS. [1961] 4p.
Order from RIS $5.00 RIS S-2117

Trans. of USSR description of invention for conditional author's certificate 117148, cl. 5a, 18_{10}, submitted

29 Apr 55 under no. 78055/575831, basic author's certificate 116157 29 Jan 55, in the name of the same persons.

DESCRIPTORS: *Azimuth, Measurement, Instrumentation, *Drills, Automatic, *Remote control systems, *Communication systems, Oscillation, Generators, Commutators, Control systems, Design

Pokrovskiĭ, I.S.
THEORIE VAN HET SLAAND BOREN (Theory of percussion drilling). 13 p. MTWL: 574 (Text in Dutch)
Order from OTS-ETC $1.85 61-17106

Trans. of Gornyĭ Zhurnal (USSR) 1949, v. 123, no.12, p. 10-14.

DESCRIPTORS: *Rock, *Drills, *Mining Engineering, Theory.

Aeronautical Engineering

Hartman, M. A.
GEAR DRIVES FOR OUTER SPACE. [1961] 11p.
Order from STT $6.00 STT-146-305

Trans. of Machine Moderne (France) 1960 [v. 54] Feb, p. 41-45.

DESCRIPTORS: *Space flight, Space navigation, *Gears.

Timoshchenko, V. N.
A GYROSCOPE FOR INERTIAL SYSTEMS. 4 Oct 61 [5]p. MCL-1312/1+2. AD-265 717
Order from OTS or SLA $1.10 61-28982

Unedited rough draft trans. from Byulleten'Izobretenii (USSR) 1960, no. 15 (USSR [patent appl.] announcement no. 624527/26, 9 Apr 59).

DESCRIPTORS: *Inertial navigation, Instrumentation, *Gyroscopes, Design.

A gyroscope for inertial systems with a sensing element suspended in a liquid, the stator of this element being fed by a current passing through the liquid, is described. For the purpose of eliminating imbalance in the rotor during its operation, imbalance arising from nonuniform abrasion of the bearings, a gapless rotor suspension is used, the bearings of which are constantly under the action of a constant fluid-pressure force through the hemispheres of the stator shell.

Chemical Engineering

CONFERENCE ON GLUCOSE PRODUCTION.
24 Nov 61 [4]p. JPRS: 11338.
Order from OTS or SLA $1.10 62-13634

Trans. of Gidroliznaya i Lesokhimicheskaya Promyshlennost' (USSR) 1961 [v. 14] no. 4, p. 30.

DESCRIPTORS: Conferences, *Glucose, Production.

PROCESS FOR OPERATING A CARBON MONOXIDE CONVERSION PLANT. [1961] 6p.
Order from RIS $12.00 RIS C-173

Trans. of German patent application V 14 673 (12i, 1/01) DAS 1 080 528, by VEB Leuna Werke "Walter Ulbricht", appl. 9 July 58, pub. 28 Apr 60.

DESCRIPTORS: Carbon dioxide, Hydrogen, Production, *Carbon compounds, *Monoxides, Water vapor, Chemical reactions, *Chemical engineering

Bogomolov, A. V.
PRIMARY BITUMINOUS SUBSTANCES IN THE SEQUENCE OF CONVERSIONS OF ORGANIC RESIDUES INTO PETROLEUM. 9p. 7 refs. MTWL: 746.
Order from OTS or ETC $1.55 61-17266

Trans. of Zhurnal Prikladnoĭ Khimii (USSR) 1954, v. 27, no. 9, p. 1012-1016.

DESCRIPTORS: *Petroleum, Mineral oil, *Sedimentation, *Organic materials, Asphalt.

Charnyĭ, I. A.
BREAKTHROUGH OF BOTTOM WATER IN AN OIL WELL. 6p. MTWL: 748.
Order from OTS or ETC $1.55 61-17268

Trans. of Akademiya Nauk SSSR. Doklady, 1953, v. 91, no. 6, p. 1293-1296.

DESCRIPTORS: *Mineral oil, Production, Water, Hydrology, Theory.

Gaumond, P.
A MODERN PLANT FOR THE REMOVAL AND RECOVERY OF CARBON DIOXIDE CONTAINED IN A GASEOUS MIXTURE. [1961] 6p. (1 fig. omitted).
Order from SLA $1.10 61-20892

Trans. of Industrie Chimique (France) 1959, v. 46, no. 499, p. 38-40.

DESCRIPTORS: Chemical engineering, *Chemical industry, France, Gases, *Carbon dioxide, Separation, Recovery

The plant has a maximum capacity of 250,000 m^3/day of converted gas. It has operated since November 1958 yielding completely satisfactory results. (Author)

Greco, G. and Soldano, U.
NEW PLANTS TO PRODUCE FORMALDEHYDE FROM METHANOL. [1961] 13p. 22 refs.
Order from RIS $25.00 RIS S-2120

Trans. of Chemie-Ingenieur-Technik (West Germany) 1959, v. 31, no. 12 [p. 761-765].
Another trans. is available from SLA $1.60 as 61-20895 [1961] 15p.

DESCRIPTORS: *Chemical industry, Germany, Chemical engineering, *Formaldehyde, Production, *Methanols, Oxidation, Dehydrogenation, Silver catalysts, Metallic compounds, Oxides, Catalysts

Kurkin, V. P.
RECOVERY OF FINELY DISPERSED CARBON BLACK USING ACOUSTIC COAGULATION. 25 Oct 61 [10]p. 9 refs. JPRS: 10762.
Order from OTS or SLA $1.10 62-13326

Trans. of Kauchuk i Rezina (USSR) 1961 [v. 20] no. 6, p. 29-31.

DESCRIPTORS: *Carbon black, Recovery, Sedimentation, Acoustics, Coagulation, Aerosols, Ultrasonics.

An experimental assembly for acoustic coagulation and sedimentation of highly dispersed carbon black has been developed. A static siren containing a vacuum collector has been devised, with the aid of which coagulation of an aerosol without dilation of gases generated by acoustic vibrations can be carried out. Efficiency of the entire assembly is 99.98%; the efficiency of the assembly less the filter is not less than 97%. (Author)

Nagiev, M.F.
DE THEORIE VAN RECIRCULATIEPROCESSEN IN DE PETROLEUMTECHNOLOGIE (Theory of recirculationprocesses in petroleum technology). 9 p. 4 refs. MTWL: 414. (Text in Dutch).
Order from OTS or ETC $1.55 61-17097

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 73, no. 4, p. 783-786

DESCRIPTORS: *Petroleum Industry, *Industrial Research, Chemical Engineering, Statistical Distribution.

Norin, I. G. and Syskaev, I. M.
PRODUCTION METHOD FOR TETRAETHYL LEAD. [1961] 2p.
Order from RIS $4.00 RIS E-805

Trans. of Russian patent 131350, cl. 12s, 2603 [1960]

DESCRIPTORS: *Lead compounds, *Ethyl radicals, Production, Manufacturing methods, Lead alloys, Sodium alloys, Alloys, Ethanes, Chlorides, Chemical reactions.

Panov, V.I. and Tyutyunnikov, A.B.
DIE TECHNOLOGISCHEN GRUNDLAGEN DER AUTOMATISCHEN REGULIERUNG VON PRÄZIPITIERUNGSKOLONNEN DES KARBONISATIONSSEKTORS DER SODAFABRIK (Technological principles of the automatic regulation of precipitationcolumns of the carbonisation sector of the soda factory). 21 p. 9 refs. MTWL: 969. (Text in German).
Order from OTS or ETC $1.55 61-17073

Trans. of Khimicheskaya Promyshlennost' (USSR) 1959, no.6, p.59-65.

DESCRIPTORS: *Sodium compounds, *Carbonates, *Automation, *Carbonization, Precipitation, Processes.

Pieper, H. and Hartlapp, G.
ON THE PRODUCTION OF PHOSPHORIC ACID AND PHOSPHATES, PTS. II-IV. [1961] [13]p. 15 refs.
Order from SLA $1.60 61-20891

Trans. of Fette Seifen Anstrichmittel (West Germany) 1957, v. 59, no. 11, p. 961-966.

DESCRIPTORS: *Phosphoric acids, Acids, *Phosphates, Production, Decomposition, Sulfuric acid, Chemical reactions, Physical properties

Contents:
Phosphoric acid by wet decomposition with sulfuric acid
The physical properties of phosphoric acid
The higher condensed acids

Piskunov, N.S.
THE SHAPE OF THE OIL-WATER INTERFACE DURING OIL SEPARATION FROM A LAYER AND DURING WATER INJECTION UNDER PRESSURE. FORMATION OF WATER CONES. 7 p. 2 refs. MTWL: 616.
Order from OTS or ETC $1.55 61-17238

Trans. of Akademiya Nauk SSSR. Doklady, 1952, v. 85, no. 1, p. 49-52.

DESCRIPTORS: *Mineral oils, Water, Boundery layer.

Planovskiĭ, A.N.
OVER DE THEORIE VAN CONTINUE PROCESSEN. I. (Theory of continuous processes. I.) 19 p. 2 refs. MTWL: 521. (Text in Dutch).
Order from OTS or ETC $1.85 61-17153

Trans. of Khimicheskaya Promyshlennost' (USSR) 1944, no.5, p. 5-9.

DESCRIPTORS: *Processing, Chemical engineering, Theory.

Provinteev, I.
HET VRAAGSTUK VAN DE BEREKENING VAN REACTORS VAN HET DOORSTROOMTYPE (Design of continuous-reaction reactors). 8 p. 4 refs. MTWL: 440 (Text in Dutch).
Order from OTS or ETC $1.55 61-17069

Trans. of Zhurnal Prikladnoĭ Khimii (USSR) 1950, v. 23, no. 10, p. 1107-1110.

DESCRIPTORS: *Chemical reactions, Processing.

Rozenberg, M.D.
THE INTERFERENCE OF OIL WELLS IN AN ELASTIC FILTRATION SYSTEM OF OIL. 5 p. 5 refs. MTWL: 613.
Order from OTS or ETC $1.40 61-17235

Trans. of Akademiya Nauk SSSR. Doklady, 1952, v. 84, no. 1, p. 31-32.

DESCRIPTORS: *Mineral oils, Fluid filters.

Civil Engineering

Hoornweg, W. J.
MODERN WEIGHBRIDGES. Mar 59 [22]p.
Order from SLA $2.60 61-20610

Trans. from International Harbour Congress (no. 3) [held at] Antwerp, June 58. [Proceedings]. Another trans. is available from BISI £4 5s as BISI-1297, 13 Mar 59.

DESCRIPTORS: *Balances, Design, Liquids, Fuel oil, Fuels, Oils, Hydraulic systems, Pressure vessels, Measurement, Electric machinery, *Weighing.

Weighing principles are shortly reviewed and modern weighing equipment is discussed. The various principal weighing methods and their usual applications are examined. In connection with the delivery of oil products, the weighing of liquid fuel is compared with volume measurement. Finally some existing modern weighing plants, in use in some of the large works in Holland, are described and the future possibilities of such installations are discussed. (Author)

Lewicki, Ernst.
BUILDING RESEARCH AND DEVELOPMENT WORK AT THE "ZNIPS" INSTITUTE (MOSCOW). Pt. 1 of a Rept. on a Study Tour, 7-30 Dec 55. [1961] 20p.
Order from SLA $1.60 61-18961

Trans. from Bauplanung und Bautechnik (Germany) 1956, v. 10, no. 11.

DESCRIPTORS: *Civil engineering, Conferences, USSR, Buildings, Housing, Construction, Materials, Corrosion, Lighting systems, Acoustics, Heating, Ventilation

Onyashvili, O. D.
CERTAIN DYNAMIC PROBLEMS OF THE THEORY OF SHELLS. [1959] 178p. 107 refs. MDF O-109.
Order from OTS or SLA $12.50 62-13695

Trans. of mono. [Nekotorye Dinamicheskie Zadachi Teorii Obolochek] Moscow, 1957, p. 3-[192].

DESCRIPTORS: *Structural shells, *Cylindrical bodies Theory, Vibration, Stability, Load distribution, Test methods, Stresses, Numerical analysis, Calculus of variations, Earthquakes, Resistance

This volume is devoted to investigations of the vibrations, dynamic stability and resistance-to-earthquake of thin shells, used primarily as roofs and ceilings in industrial and domestic buildings. The hypotheses and important relations of the engineering moment theory of shallow shells of V. Z. Vlasov are explained. The investigations reported were closely related to practical activities of the Construction Institute of the Georgian Academy of Sciences on the development and introduction of new structural shapes of the thin-walled shell type of monolithic or prefabricated reinforced concrete. The experience gained in the transition from plane construction to thin-walled shells gave a significant saving in metal and cement.

Rohnisch, A.
THE EFFECT OF FROST ON THE GROUT OF PRESTRESSING TENDONS. [1961] 40p. 4 refs.
Order from SLA $4.60 61-20023

Trans. of Beton und Stahlbetonbau (Germany) 1955, v. 50, no. 2, p. 64-71, and no. 3, p. 89-93.

DESCRIPTORS: *Freezing, Stresses, Tendons, Concrete, *Bridges, Tests, Ducts, *Fracture (Mechanics), *Bonding, Chemical analysis, Temperature, *Cements, Aluminum, Additives, Water entry, Porous materials, *Ice.

Rösli, A.
THE DYNAMIC BEHAVIOR OF PRESTRESSED BRIDGES. [1961] [14]p. 7 refs.
Order from SLA $1.60 61-18977

Trans. of Congress of the International Association for Bridge and Structural Engineering (no. 6) [held at] Stockholm, 1960. Preliminary publication, p. 693-706.

DESCRIPTORS: *Bridges, *Concrete, Construction

The Swiss Federal Materials Testing Laboratory, Zürich, carried out exhaustive dynamic investigations on 20 bridges over 3 years. Results indicated that modern prestressed concrete bridges display for the most part natural frequencies of from 1 to 6 or 7 c/sec. Occasionally a frequency up to 10 c is found. Bridges with a low natural frequency differ from those with a higher natural frequency in having a smaller amount of damping and in being less sensitive to actual impact blows. Bridges with a relatively high natural frequency display good damping properties and insensitivity to vibrations produced by ordinary traffic, but their impact allowances in respect of actual impact blows are quite considerable. Despite the occurrence of often very noticeable vibrations, bridges having a low natural frequency are at a disadvantage with regard to structural safety, provided that amplification of the oscillations of such bridges is prevented. The Swiss standard regulations as to loading specify values which are too low for the smaller fixed-end bridges, which are very sensitive to impact.

Electrical and Electronic Engineering

CIRCUIT ARRANGEMENT FOR THE SEPARATION OF PULSES. [1961] 5p.
Order from ATS $8.50 ATS-37N57G

Trans. of German patent application T-16172, file no. W2089, by Telefunken G. m. b. H., n. d.

DESCRIPTORS: *Circuits, *Pulse generators.

DIRECTIONS FOR USE NO. 741 CONCERNING OMEGATRON TUBES (CAT. NO. 164 91). [1961] [13]p.
Order from SLA $1.60 61-20265

Trans. from German language mono. Instruction Pamphlet for Leybold Omegatron Tubes, Cologne/Bayental, 1961.

DESCRIPTORS: *Electron tubes, Electronic equipment, Pressure, Mixtures, Gases, Analysis, Electrodes, Cathodes, Vacuum systems, Tests, Structures, Calibration, Glass

METHOD FOR THE MANUFACTURE OF TERMINA TERMINAL INSULATORS. [1961] 4p.
Order from ATS $6.00 ATS-20N58G

Trans. of German patent 692,642, by Vereinigte Isolatorenwerke Akt.-Ges., pat. from 9 Apr 36 onward, granted 30 May 40, pub. 24 June 40.

DESCRIPTORS: *Terminal blocks, Electric connectors, *Electric insulation.

NOVEL ELECTRIC REGISTERING DEVICES, by OH. [1961] 2p. (2 figs. omitted).
Order from SLA $1.10 61-18774

Trans. of Automatizace (Czechoslovakia) 1960, v. 3, no. 4, p. 122.

DESCRIPTORS: Harmonic analyzers, Wave analysis, Commutators, Transformers, Amplifiers, Voltage, Power supplies, Measurement, Test methods, Industrial equipment, Electromagnets, Electric motors, Radiofrequency, Signals, *Recording devices, *Electrical equipment.

TAPE POTENTIOMETER. [1961] 2p. (4 figs. omitted) 1 ref.
Order from SLA $1.10 61-18772

Trans. of Automatizace (Czechoslovakia) 1960, v. 3, no. 4, p. 124.

DESCRIPTORS: *Potentiometers, *Electric insulating tapes, Electronic equipment, Computers.

THERMAL WATCHDOG "SENSOTHERM", by OH. [1961] 2p. (2 figs. omitted) 3 refs.
Order from SLA $1.10 61-18773

Trans. of Automatizace (Czechoslovakia) 1960, v. 3, no. 4, p. 123.

DESCRIPTORS: *Automation, Industrial equipment, *Thermal switches, Electric relays, Switching circuits, Electric motors, Electric power production, Electrical equipment, Temperature, Generators, Induction motors, Electric governors, Electric machinery, Machines, Control systems.

Bonch-Osmolovskii, A. G. and Ivanov, G. K.
CIRCUITS SHAPING ALMOST RECTANGULAR HIGH-INTENSITY MAGNETIC FIELD PULSES. [1961] 6p. 7 refs. MDF B-182.
Order from OTS or SLA $1.10 62-15611

Trans. of Izvestiya V[ysshikh] U[chebnykh] Z[avedenii]. Radiotekh[nika] (USSR) 1960, v. 3, no. 6, p. 558-562.

DESCRIPTORS: *Magnetic fields, Production, *Circuits, Commutators

A method is described of discharging a specially designed artificial long line through an inductance coil. A perfected commutator circuit with one mercury excitron is presented. Pulses of a magnetic field intensity to $10^5$0e and with a duration of 200 sec have been obtained for which the plateau lasted 35% of the total pulse duration (H = const to ± 1.5% accuracy). (Author)

Bongiovanni, G. and Gambardella, G.
THE DRIVE KINEMATISM OF MOTOR MOWERS AND THE RELEVANT PROBLEMS OF COMPENSATION. [1961] 21p.
Order from STT $10.00 STT-152-181

Trans. of Ingegneria Meccanica (Italy) 1960, no. 11, p. 19-29.

DESCRIPTORS: Design, *Electric motors.

Brinkman, K. and Beyer, M.
HIGH-VACUUM DRYING AND DEGASSING OF INSULATING OILS FOR EXTRA-HIGH VOLTAGE CABLE. [1961] 10p.
Order from ATS $15.50 ATS-96N56G

Trans. of [ETZ] Elektrotech[nische] Z[eitschrift. Ausgabe] A. [Zentralblatt für Elektrotechnik] (West Germany) 1960, v. 81, no. 20/21, p. 744-749.

DESCRIPTORS: *Insulating materials, *Electric insulation, *Oils, *Electric cables, Degasification, Dehydration.

Gavrilov, M. A.
METHODEN VOOR HET ONTWERPEN VAN RELAISCONTACTSCHAKELINGEN (Metody sinteza relefno-kontaktnykh skhem) (Methods for the designing of relay contact connections) tr. by G.B.J. Overbeek. 25p. (foreign text included) 11 refs. MTWL: 734. (Text in Dutch).
Order from OTS or ETC $1.95 61-17279

Trans. of Elektrichestvo (USSR) 1946, no. 2, p. 54-59.

DESCRIPTORS: *Electric relays, Relays, *Remote control systems, Electric switches, Switches, Theory.

Kessler, C.
A CONTRIBUTION TO THE THEORY OF MULTILOOP REGULATORS. [1961] 17p.
Order from SLA $1.60 61-20723

Trans. of Regelungstechnik (West Germany) 1960, v. 8, no. 8, p. 261-266.

DESCRIPTORS: Synthesis, *Control systems, *Linear systems, Transformations (Mathematics), Theory, *Current regulators,

The many requirements of modern control frequently makes necessary the synthesis of multi-loop control systems. It is shown that the calculation of these systems depends upon a repeated application of sizing rules for a single loop integral control feedback. Through step by step structural transformations the system can be changed into an analogous single loop control system. (Author)

Mishchenko, E. F. and Pontryagin, L. S.
CONCERNING ONE STATISTICAL PROBLEM OF OPTIMAL CONTROL. 21 Nov 61 [27]p. 4 refs. JPRS: 11222.
Order from OTS or SLA $2.60 62-13646

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Matematicheskaya, 1961, v. 25, no. 4, p. 477-498.

DESCRIPTORS: Control, *Control systems, *Statistical processes, Differential equations, Complex variables.

The problem of the optimal attainment by a small-boundary controlled point of another stochastically moving point is examined. The problem is solved with a secondary parameter for a parabolic differential equation with partial derivatives. (Author)

Occhini, E. and Trogu, G.
PROBLEMS THAT ARISE DURING THE LAYING AND RECOVERY OF ARMORED SUBMARINE CABLE. [1961] 43p. 5 refs.
Order from SLA $4.60 61-18924

Trans. of Elettrotecnica (Italy) 1960, v. 47, no. 2, p. 1-12.

DESCRIPTORS: *Cable assemblies. Underwater equipment, Marine engineering, Ships, Ocean bottom, Oceanographic vessels, Telegraph equipment, Recovery, *Submarines, Copper wire, Wire winding machines, Armor plate, *Coaxial cables, *Electric cables.

The phenomena occurring during the laying and recovery of submarine cable are considered from a mathematical standpoint, these phenomena being related to the presence of an armor of helically wound steel wires. Some experimental data on a particular deep-sea submarine telegraph cable are also reported. (Author)

Pugachev, V. S.
THE GENERAL THEORY OF RANDOM FUNCTIONS AND ITS APPLICATION TO AUTOMATIC CONTROL (Obshchaya Teoriya Sluchainykh Funktsii i Ee Primenenie v Teorii Avtomaticheskofo Regulirovaniya). [1961] [53]p. (foreign text included) 17 refs. [DSIR NLL] M. 3084.
Order from OTS or SLA $5.60 61-27556

Trans. of mono. Trudy [Vtorogo] Vsesoyuznogo Soveshchaniya po Teorii Avtomaticheskogo Regulirovaniya [All-Union Conference on the Theory of Automatic Control (no. 2). Proceedings, Moscow/Leningrad] 1955, p. 403-424.

DESCRIPTORS: Automatic, *Control systems, Statistical processes, *Statistical functions, Theory, Automation.

Reuber, Claus.
OBSERVATIONS OF TV TECHNIQUES. [1961] 17p.
Order from STT $10.00 STT-139-595

Trans. of [ETZ] Elektrotechnische Zeitschrift. [Ausgabe B. der Elektrotechniker] (Germany) 1961, v. 13, no. 6, p. 135-141.

DESCRIPTORS: *Television.

Smirnov, A. M.
ON THE EXPERIMENTAL DETERMINATION OF DYNAMIC CHARACTERISTICS OF PNEUMATIC PIPES (Ob Eksperimental'nom Opredelenii Dinamicheskikh Kharakteristik Pnevmoprovodov). [1961] 2p. H-9275; JPRS (R-1767-D).
Order from OTS $0.50 61-31677

Trans. of #Avtomatika i Telemekhanika (USSR) 1961, v. 22, no. 1, p. 119-120.

DESCRIPTORS: Gas cylinders, *Pneumatic systems, *Control systems, Dynamics, Load distribution, Pressure, Measurement, *Metals, *Pipes, *Copper tubing, Frequency, Electrical equipment.

An apparatus for determining dynamic characteristics of pneumatic pipes by means of the frequency characteristic method is briefly described. Experimental gain-frequency characteristics for two pipes are given. (Author)

Valatskof, A. N.
DE GRONDBEGINSELEN VAN DE THEORIE VAN RELAISCONTACTSCHAKELINGEN (Elementy teorii relefno-kontaktnykh skhem) (Elementary theory of relay contact connections) tr. by G.J.B. Overbeek, 11p. 4 refs. MTWL: 735. (Text in Dutch).
Order from OTS or ETC $1.55 61-17280

Trans. of Vestnik Svyazi Elektrovyzi (USSR) 1947, no. 7, p. 16-18.

DESCRIPTORS: *Electric relays, Relays, Electric switches, switches, Theory.

Watanabe, H.
THEORY OF THE CHEBYSHEV APPROXIMATION FOR FILTER NETWORKS. [1961] 21p. 9 refs.
Order from SLA $2.60 62-13702

Trans. of [Denki Tsushin Gakkai Zasshi] (Japan) 1960, v. 43, no. 3, p. 271-280.

DESCRIPTORS: *Microwave networks, *Band-pass filters, Numerical analysis, Theory

A comprehensive analysis of design theory for filter networks, which have approximately a constant value in a given frequency band is described. An ideal transmission function, defined as the function which has the most ideal transmission characteristics for such filter networks, is obtained as an Abelian integral. A method is described in which the generalized characteristic funtion is derived by mapping the ideal transmission function and the realizable transmission coefficient is deduced by the generalized characteristic function. In particular, the general theory is applied to single and double-passband filters whose characteristics in the passband exhibit Chebyshev performance and the theory of their design is explained in detail. Some interesting examples are included of actual design procedures and of network configurations for practical applications. (Author)

Yakubovich, V. A.
ON NONLINEAR DIFFERENTIAL EQUATIONS OF AUTOMATIC REGULATION SYSTEMS WITH ONE CONTROL ELEMENT. [1961] [64]p. 19 refs.
Order from OTS or SLA $6.60 61-16547

Trans. of Leningrad U. Vestnik (USSR) 1960 [v. 15] no. 7, Seriya Matematiki, Mekhaniki i Astronomii [no. 2] p. 120-153.

DESCRIPTORS: Automatic, *Control systems, Numerical methods and procedures, Stability, *Nonlinear differential equation, Matrix algebra, Algebra, Tensor analysis.

A strict mathematical foundation is presented for the method of A. I. Lur'e (Some nonlinear problems in the theory of automatic control, Moscow, 1951; available in translation from LC or SLA as 61-19667) The discussion is carried in the invariant form, without any choice of the special coordinate system. It affords the possibility of writing the solved equations immediately from the coefficients of the given system of differential equations. It is shown that the sufficient condition for stability "in the large" is that some algebraical equation has at least 2 real roots.

Zeitz. K. H.
THE INSTATANEOUS CONTROLLER GEAVIT. Nov 61.
Order from BISI 3 BISI-2440

Trans. of AEG Mitteilungen (Germany) 1960, v. 50, Aug/Sep, p. 342-345.

DESCRIPTORS: *High frequency, Electronic equipment, *Transistors, *Amplifiers, *Control systems.

Ordnance, Missiles, and Satellite Vehicles

THE NEXT SOVIET SPACE VEHICLE. 10 Apr 61, 3p.
AID Rept. 61-48; AD-255 790.
Order from OTS or SLA $1.10 61-19862

Review of Ekonomicheskaya Gazeta (USSR) 1961, 26 Mar, p. 3; Izvestiya (USSR) 1961, 28 Mar, p. 4; 29 Mar, p. 4; Pravda [Moscow] (USSR) 1961, 26 Mar, p. 1 and #6; 27 Mar, p. 4.
#A complete trans. is available from OTS or SLA $1.10 as 61-27810, MCL-1149/1, 27 July 61 [7]p.

DESCRIPTORS: *Spaceships, Manned, *Space flight, *Closed cycle ecological systems, Experimental data, Weightlessness, Cosmic rays, *Space medicine, Laboratory animals.

Contents:
Before the flight of man into space, by N. N. Zhukov-Verezhnikov
Biology and Space, by V. V. Parin
#Man and space, by N. Sisakyan
Daring project, brilliant realization: press conference at the Academy of Sciences on the launching of the fourth and fifth ship-satellites
Tass report on launching of the fifth ship-satellite.

Afanas'ev, G. T. and Bobolev, V. K.
ON THE PHLEGMATIZATION OF EXPLOSIVE SUBSTANCES (O Flegmatizatsii Vzryvchatykh Veshchestv) tr. by A. Pingell. 1961, 8p. 6 refs. N R L Trans. no. 862.
Order from OTS $0.50 61-31629

Trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 138, no. 4, p. 886-889.

DESCRIPTORS: *Explosives, Sensitivity, Decomposition, Temperature, Melting, Plasticizers, Additives, Stability, Crystallization.

Sanitation and Safety Engineering

STUDIES IN SOVIET HYGIENE. 30 Oct 61 [17]p. JPRS: 10851.
Order from OTS or SLA $1.60 62-13343

Trans. of Gigiena i Sanitariya (USSR) 1961 [v. 26] no. 8, p. 53-63.

DESCRIPTORS: *Sanitary engineering, *Public health, *Radiological contamination, *Dosimeters, Radioactive waste, Ionization chambers, Ionization gages, Radioactive waste disposal, Radiation counters, *Alpha counters, *Beta counters, *Gamma counters, Radiation effects, Professional personnel, Scientific personnel, *Industrial training

Contents:
The use of dosimetric apparatus in sanitary practices, by R. V. Stavitskii and A. V. Terman
The training of sanitation physicians in the field of radiation hygiene, by F. G. Krotkov

Gutkin, A. Ya.
PRELIMINARY DATA ON CERTAIN HYGIENIC PRINCIPLES OF PLANNING AND DESIGNING BOARDING SCHOOL BUILDINGS (Predvaritel'nye Dannye o Nekotorykh Gigienicheskikh Printsipakh Proektirovaniya Shkol-Internatov). 12 Oct 61 [13]p. 1 ref. JPRS:10532.
Order from OTS or SLA $1.60 61-28856

Trans. of Gigiena i Sanitariya (USSR) 1961 [v. 26] no. 7, p. 45-51.

DESCRIPTORS: Structures, Design, Universities, Sanitary engineering, *Human engineering, *Education, *Children, *Students.

Huber, E. W.
CO-FORMATION IN MOTOR VEHICLE ENGINES (CO-Entwicklung bei Fahrseugmotoren). Excerpt from lecture at International Congress of FISITA (no. 8) [held at] The Hague, 1960. [1961] [25]p. 10 refs.
Order from SLA $2.60 61-20203

Trans. of ATZ [Automobiltechnische Zeitschrift] (Germany) 1960, v. 62, no. 12, p. 320-325.

DESCRIPTORS: *Exhaust gases, Standards, *Carbon compounds, Atmosphere, *Internal combustion engines Fuel consumption, *Diesel engines, Fuel oil, Fuels, Smokes, *Monoxides

Luther, Horst.
RESEARCH PROBLEM: "EXHAUST GAS". [1961] [11]p. 9 refs.
Order from SLA $1.60 61-20078

Trans. of ATZ [Automobiltechnische Zeitschrift] (Germany) 1960, v. 62, no. 12, p. 326-328.

DESCRIPTORS: *Internal combustion engines, *Exhaust gases, *Toxicity, Vehicles, Fuels, *Contamination, *Atmosphere, Analysis, Chemical, *Diesel engines, *Carbon compounds, *Monoxides, Indoles, Public health, Fuel oil, Gasoline.

Mao, Sung-tsan.
ANIMAL HOSTS AND INSECT VECTORS OF LEPTOSPIROSIS IN FOOCHOW AREA [AND] NUTRITIONAL SURVEY OF STUDENTS AT CHI-NAN MIDDLE SCHOOL NO. 3. 18 Oct 61 [11]p. 3 refs. JPRS: 10632.
Order from OTS or SLA $1.60 62-13015

Trans. of Chung Hua i Hsüeh Tsa Chih (Chinese People's Republic) 1960, v. 46, no. 1, p. 72-74 and p. 84.

DESCRIPTORS: *Spirochetosis, Disease carriers, Mice, Swine, Cattle, *Epidemiology, Nutrition, Vitamins, Students, Sanitary engineering.

Animal hosts: More than 30 cases of leptospirosis were discovered in the Foochow area in February and March of 1959. Nine leptospira strains were isolated from field mice, mus norvegicus, pigs and cows. The bovine strain was found by isolation from milk, and was the first such recorded in the nation. The nine strains were identified as L. bataviae. Nutritional survey: The intake of vitamins A, B_2 and C is too small. The school is also unsatisfactory with respect to hygiene. Immediate improvement in these respects is urged.

Serruys, M.
NOXIOUS MATERIALS IN EXHAUST GASES OF AUTOMOBILES (Les Substances Nocives des Gaz d'Échappement des Véhicules Automobiles). [1961] [45]p. (foreign text included) 4 refs.
Order from SLA $4.60 61-20448

Trans. of Chimie et Industrie (France) 1959, v. 82, no. 5, p. 663-675.

DESCRIPTORS: Vehicles, *Passenger vehicles, *Exhaust gases, *Poisonous gases, Atmosphere, Contamination, Gasoline, Petroleum, Additives, Chemical analysis, Internal combustion engines, Diesel engines, Reduction, Toxicity, Antiknock, Lubrication, Oils, *Fuel oil

FOOD, HANDLING, AND PACKAGING EQUIPMENT

Food

Münzel, K.
INVESTIGATIONS ON PHARMACEUTICAL EMULSIFIERS FOR INTERNAL USE: EGG YOLK AND EGG WHITE. [1961] 11p. (refs. omitted).
Order from SLA $1.60 61-20254

Trans. of Pharmaceutica Acta Helvetiae (Switzerland) 1943, v. 18, p. 60-65.

DESCRIPTORS: Colloids, *Egg white, *Egg yolk, Food.

Experiments with egg white show that no highly dispersed emulsion can be obtained with the weakly concentrated emulsifier solution and that the colloidal structure of egg white is susceptible to mechanical action as is that of egg yolk. (Author)

Münzel, K.
INVESTIGATIONS ON PHARMACEUTICAL EMULSIFIERS FOR INTERNAL USE: TRAGACANTH. [1961] 5p. (refs. omitted).
Order from SLA $1.10 61-20253

Trans. of Pharmaceutica Acta Helvetiae (Switzerland) 1943, v. 18, p. 44-46.

DESCRIPTORS: *Colloids, Viscosity, *Pharmacology, Drugs.

A great viscosity difference is shown by 4 kinds of tragacanth. Viscosity can not be found from the commercially used quality designations since these are governed purely by outward appearances. On the basis of various authors investigations and on the basis of specific experiments, tragacanth is to be known as a quasi-emulsifier, limited by the mere swellability of bassorin. The water soluble portion, tragacanthin, has certain emulsifying properties since in great dilutions real emulsion globules are retained. (Author)

MACHINERY, FABRICATION, AND ACCESSORY EQUIPMENT

Hennig, H. D.
HYDROSTATIC CRANE DRIVING GEAR. [1961] 17p.
Order from STT $8.00 STT-127-303

Trans. of Maschinenbautechnik (Germany) 1960, v. 9, no. 6, p. 283-290.

DESCRIPTORS: *Hoists, *Gears.

Kraus, W. and Giersiepen, G.
TECHNICAL INFORMATION ON THE SAND GRINDER. [1961] 11p. (13 figs. omitted).
Order from SLA $1.60 62-10030

Trans. of Farbe und Lack (West Germany) 1961, v. 67, no. 5, p. 302-306.

DESCRIPTORS: *Ball mills, *Sand, *Grinders.

The sand grinder is a new type of mill particularly for the wet-grinding of pigments. Agglomerates up to a size of about 70 μ are well disintegrated. Quartz sand is used as the grinding charge which moves, together with the mill-base, by means of an agitator consisting of smooth, circular discs arranged in tiers. Shearing forces occur on account of the different speed in between the sand layers situated in the separate tiers and these effect the pulverization. It can be said that the sand grinder disperses and pulverizes pigments exceptionally well. It therefore completes the purpose of the roller and ball mills. (Author)

Manufacturing Equipment and Processes

IMPROVED FASTENER FOR BLIND HOLES. [1961] 5p.
Order from ATS $7.50 ATS-18N58F

Trans. of French patent 1,014,511, by Keeseal Pty Ltd. (Australia) filed 20 May 47, granted 18 June 52, pub. 18 Aug 52.

DESCRIPTORS: *Clamps

REGULATORY ASSEMBLY. [1961] 3p.
Order from ATS $4.00 ATS-64N57F

Trans. of Swiss patent 287,279, by Weiss and Co. Fabrique White Star, appl. filed 10 Aug 50, registered 30 Nov 52.

Duben, Lubomir.
AUTOMATION IN DETECTION OF DEFECTS. [1961] 7p. (10 figs. omitted).
Order from SLA $1.10 61-18775

Trans. of Automatizace (Czechoslovakia) 1960, v. 3, no. 4, p. 120-122.

DESCRIPTORS: *Automation, *Non-destructive testing, Detection, Quality control, Manufacturing methods, *Control systems, Economics, *Steel industry, *Electromagnetism, *Inductance; X-rays, Microstructure.

Maslennikov, V. M.
USING COMPUTERS AS THE BASE OF THE COMPLEX AUTOMATION OF INDUSTRIAL PROCESSES. 18 Dec 61 [15]p. (6 figs. omitted). JPRS: 11522.
Order from OTS or SLA $1.60 62-13653

Trans. of #Priborostroenie (USSR) 1961, no. 9, p. 9-12.

DESCRIPTORS: *Industrial production, *Automation, *Digital computers, Computers.

Pahlitzsch, G. and Ernst, H. O.
ABOUT THE ECONOMY OF INFINITELY VARIABLE ADJUSTABILITY OF GRINDING WHEEL AND WORKPIECE REVOLUTION NUMBER IN A CYLINDRICAL GRINDING MACHINE. [1961] 33p. (15 figs. omitted) 7 refs.
Order from SLA $3.60 61-18915

Trans. of Werkstattstechnik und Maschinenbau (Germany) 1956, v. 46, no. 5, p. 218-226.

DESCRIPTORS: *Grinding wheels, Economics, *Machine tools, *Cutting tools, *Grinders, Friction, Specifications, Velocity, Abrasion, Industrial research, Manufacturing methods, Cylindrical bodies.

The question of the economy of an infinitely variable driving mechanism of the grinding wheel or of the workpiece or of both has been answered in the basis of tests made during the investigations. When comparing the costs, allowance has to be made for the manner of the productive use of the grinding machine (mass or individual production). It becomes apparent that no economy can be effected when using a machine with infinitely variable grinding wheel driving mechanism for mass production. Its increased costs do not justify its use in mass production, while with individual production, where the resulting profits are larger, the increased investment is warranted. No attention has been paid to the adaption of the grinding wheel circumference speed to the material to be ground. (Author)

Rossetti, U.
DEVELOPMENTS IN WIRE ROPE FATIGUE TESTING. [1960]
Order from BISI £ 1 15s BISI-1832

Trans. of Transporti Industriali [sic] 1959, Jul/Aug, p. 1126-1128.

DESCRIPTORS: *Wire, *Cordage, Test methods, *Fatigue (Mechanics)

Steiger, H.
FLAME HEAT TREATMENT OF RAILS FOR POINTS AND CROSSINGS AND FOR RAIL ENDS. [1961] [13]p.
Order from SLA $1.60 61-16244

Trans. of der Peddinghaus Erfahrungsaustaush [sic] 1955, no. 3, p. 22-26.

DESCRIPTORS: *Railroad tracks, Railroads, Transportation, Mechanical properties, *Heat treatment, Friction, Manufacturing methods, *Hardening, Hardness, Flames, Stresses, Microstructure.

Transport, Traction and Hoist Facilities

Chudakov, E.A.
BIJDRAGE TOT HET PROBLEEM VAN HET ROLLEN VAN EEN ELASTISCH (AUTO-) WIEL (Contribution to the problem of the rolling of an elastic (automobile) wheel). 5 p. MTWL: 518. (Text in Dutch).
Order from OTS or ETC $1.40 61-17170

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 70, p. 773-775.

DESCRIPTORS: *Vehicle wheels, *Elasticity, Friction, Tests.

Krejsa, L. and Pavel, A.
LIVE OR MOTIVE AXLES OF MOTOR-OPERATED RAIL VEHICLES. [1961] 35p.
Order from STT $18.00 STT-144-70

Trans. of Strojirenstvi (Czechoslovakia) 1960, v. 10, no. 11, p. 819-829.

DESCRIPTORS: *Vehicles, *Axle shafts, Railroad cars

Massute, E.
THE WEIGHING OF GOODS WAGONS PARTICULARLY OF THOSE IN MOTION ON INCLINED RAIL WEIGHBRIDGES. [1961].
Order from BISI £6 5s BISI-1944

Trans. of E[isenbahn]t[echinische] R[undschau] (West Germany) 1959 [v. 8] Sonderausgabe 11, p. 57-67.

DESCRIPTORS: *Weighing, Vehicles, *Cargo vehicles, Bridges.

Morel, A.
THE BUILDING AND OPERATION OF COAL, COKE AND ORE WAGONS. Paper from the Conference on Works Transport [held at] Düsseldorf [16-18 Oct 56]. [1957] [10]p.
Order from SLA $1.10 61-16285

Trans. of Stahl u[nd] Eisen (West Germany) 1957, v. 77 [no. 8] p. 483-486.

DESCRIPTORS: *Coal, *Coke, *Ores, Transportation, *Steel industry, *Iron industry, Railroad cars, Cargo vehicles.

MATERIALS

CATALOGUS VAN SOWJET-NORMEN 1959. AFDELING K. HOUTMATERIALEN, PRODUCTEN UIT HOUTVEZELS, CELLULOSE, PAPIER, CARTON (Catalogue of Soviet-standards 1959. Part K. Wooden material, products of fibres of wood, cellulose, paper, board). 25p. (Foreign text included). MTWL: 737. (Text in Dutch).
Order from OTS or ETC $1.95 61-17282.

Trans. of Ukazatel' Gosudarstvennykh Obshchesoyuznykh Standartov (USSR) 1949. p. 240-246.

DESCRIPTORS: *Standards, *USSR, Catalogs.

COATING COMPOSITIONS, ESPECIALLY FOR METAL SURFACES. [1961] 19p.
Order from RIS $25.00 RIS D-771

Trans. of French patent 1 21[illegible] 434, by Rohm and Haas Co., Inc. (USA) appl. 12 June 58, granted 21 Dec 59, pub. 10 May 60.

DESCRIPTORS: *Metal, Surfaces, *Coatings, Preparation, Acrylic resins, Resins, Esters.

DIRECTIONS FOR THE COMPACTION OF CONCRETE BY MEANS OF VIBRATING TABLES. [1961] 6p.
Order from SLA $1.10 61-20235

Trans. of Betonstein-Zeitung (West Germany) 1952, v. 18, no. 1, p. 17-18.

DESCRIPTORS: *Concrete, Vibration mechanisms, Water, Cement, Manufacturing methods.

Hamann.
ON REINFORCING LIGHT-WEIGHT CONCRETE. [1961] 8p.
Order from SLA $1.10 61-20262

Trans. of Betonstein-Zeitung (West Germany) 1952, v. 18, no. 5, p. 180-182.

DESCRIPTORS: *Concrete, *Reinforced concrete Stresses, Elasticity, Fracture (Mechanics).

Rüsch, Hubert.
DESIGN SPECIFICATIONS FOR STRUCTURAL MEMBERS IN PRESTRESSED CONCRETE, 7TH. DRAFT, JAN 50, WITH EXPLANATIONS OF THE SPECIFICATIONS. [1961] [74]p.
Order from SLA $7.60 61-18988

Trans. of Beton und Stahlbetonbau (Germany) 1950, v. 45 [no. 5, p. 108-116].

DESCRIPTORS: Design, Specifications, *Concrete, Fracture (Mechanics), Stresses.

Satalkin, A. V. and Kublanova, M. B.
VERANDERING IN DE VOORNAAMSTE EIGENSCHAPPEN VAN VERHARD CEMENT EN BETON ONDER INVLOED VAN OPPERVLAKTE ACTIEVE STOFFEN (Change in the basic properties of set cement and concrete under the action of surface-active substances). 9 p. 4 refs. MTWL: 350. (Text in Dutch).
Order from OTS or ETC $1.55 61-17222

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v.72, no. 3, p. 561-564.

DESCRIPTORS: *Cements, *Concrete, *Detergents, Hardening, Physical chemistry.

Wasilewski, L., Zaleski, J.Z., and others.
DE WINNING VAN ZWAVELDIOXYDE EN PORTLAND-CEMENT UIT GIPS (Production of sulfur dioxide and portland cement from gypsum). 29 p. 15 refs.
MTWL: 577. (Text in Dutch)
Order from OTS or ETC $2.43 61-17109

Trans. of Przemyst Chemiczny (Poland), 1934, v. 18, p. 633-647.

DESCRIPTORS: *Sulfur Compounds, Dioxides, Production, Cements, *Gypsum, Iron Ctalysts.

Adhesives and Sealants

Möhler, Karl.
GLUING OF STEEL BY MEANS OF SYNTHETIC RESIN ADHESIVES. 9 Feb 59 [17]p. 10 refs.
Order from SLA $1.60 61-20944

Partially abridged trans. of V[erein] D[eutscher] I[ngenieure]. Zeitschrift (West Germany) 1959, v. 101, no. 1, p. 1-8.
Another trans. is available from BISI £6 as BISI-1648 [1960].

DESCRIPTORS: *Steel, Bonding, *Resin adhesives, Joints, Bridges, Pipes, Traffic, Foundations (Structures), Adhesives.

A recently erected steel bridge for pipeline and pedestrian traffic crossing a river which used adhesives for the structure can be considered a pioneering achievement. Important results were obtained for the behavior and strength of cemented joints of steel of great thickness. They formed the basis for additional investigations in this field and experiments showed that with room temperature curing synthetic resin adhesives, even higher sheer strength can be obtained. (Author)

Potat, E. and Schmid, W.
ADHESIVE STRENGTH AND SLIP OF FEED STOCKS. [1961] 9p. (refs. 7 figs. omitted).
Order from SLA $1.10 61-16161

Trans. of a German language article from an unidentified source, n.d.

DESCRIPTORS: Insectides, *Adhesives, *Surface properties, Measurement *Friction, Temperature, Differential equations, Particles

Tests showed that particle size is decisive for the magnitude of the adhesion. With very fine grains, practically no sliding is obtained because only a limited sliding surface is available. The properties of the material have less influence on adhesion than the particle size, but more than the other influential quantities. The dependence of adhesion on the granularity increases approximately exponentially. In the region of small particle size a small change in average grain diameter makes for a substantial variation in the adhesive strength. An experiment with glass and plexiglass balls showed that charges (sic) of small balls produce measurable adhesive force, when as in the case of plexiglass they are easily deformed. Larger differences in adhesive force was obtained with use of iron powders of differing particle shape. In measurements with glass and metal surfaces and exactly defined grain sized the influence of the substratum and its machining was relatively small. The negative values for adhesive strength were real in spite of their smallness; they were the initial points for load measurements. Temperature influence was small with silicon carbide. With increasing temperature (20° to 360°C) quartz charges showed an increase in adhesive strength and friction coefficient, and then a decrease.

Ceramics and Refractories

Agte, Curt and Blum, Gotthard.
HIGH TEMPERATURE MATERIALS ON A TITANIUM CARBIDE BASE. [1961] [19]p. 13 refs.
Order from SLA $1.60 61-20760

Trans. of Neue Hütte (East Germany) 1961, v. 6, no. 3, p. 139-146.
Another trans. is available from HB $10.70 as HB-5144, Sep 61, 3700 words.

DESCRIPTORS: *Titanium compounds, *Carbides, Refractory materials

High temperature materials in which a solid solution carbide consisting of 80% TiC and 20% Ta C/NbC is used instead of titanium carbide, show a better scale resistance with about equivalent heat resistance. The characteristics of these TZ alloys used as high-temperature materials can be appreciably improved by additions of 1 to 5% of chromium carbide. (Author)

Brüche, Ernst and Schimmel, Gerhard.
ABOUT THE SCRATCHING OF GLASS BELOW ONE MICRON SCRATCH TRACT WIDTH (Über das Ritzen von Glas unter 1 μ Ritzspurbreite). [1961] [31]p. (foreign text included) 29 refs.
Order from SLA $3.60 61-20840

Trans. of Glastechnische Berichte (West Germany) 1954, v. 27, no. 7, Sonderdruck, p. 239-247.

DESCRIPTORS: *Glass, Diamonds, Electron microscopes, Plasticity, Temperature, Fracture (Mechanics), Elasticity, Deformation, Cutting tools

Harjes, W.
RESISTANCE TO THERMAL SHOCK OF VARIOUS BASIC REFRACTORIES. [1961] [14]p. 17 refs.
Order from SLA $1.60 61-18374

Trans. of Radex-Rundschau (Austria) 1957, no. 2, p. 501-507.

DESCRIPTORS: *Brick, Temperature, Resistance, *Refractory materials, Thermal stresses, Metallurgical analysis, Grains (Metallurgy), Microstructure, Heating, Cooling, *Combustion chamber liners.

The performance of various sample bricks were examined under conditions of temperature fluctuation by determining the maximum elongation according to the formula $T_W = \frac{\mathcal{E}\ max.}{\alpha}$ (^{0}C). Of the thirteen bricks under investigation seven originated from Austria, four from the DDR and one each from Czechoslovakia and Yugoslavia. The calculated T_W-values ranged between 17^0 C (Radex-MD) and 636^0 C (Radex-EZ) from which it may be concluded that the method followed is quite useful, although the development of this method and of similar methods cannot be considered terminated. (Author)

Kuhn, Peter and Schimmel, Gerhard.
ELECTRON-MICROSCOPICAL INVESTIGATION OF GLASS FIBERS (Elektronenmikroskopische Untersuchung von Glasfäden). [1961] [25]p. (foreign text included) 15 refs.
Order from SLA $2.60 61-20842

Trans. of Glastechnische Berichte (West Germany) 1957, v. 30, no. 11, p. 463-470.

DESCRIPTORS: *Glass textiles, *Synthetic fibers, *Electron microscopy, Separation, Microanalysis, Gases, Selenium, Quartz, Lead, Fibers.

Very thin glass fibers were studied microscopically, directly without recourse to a replica process. During the irradiation, extremely thin fibers developed (for quartz glass with diameters below 15 A. u.), which however could be picked-up unobjectionably. For some glasses phase separations took place. Especially apparent was this phenomenon for selenium glass and lead glass. For the first one an intensive gas development and selenium separation was observed; with the lead glass the process of the phase separation could be followed precisely and recorded on electron microscopical photographs. Freshly drawn fibers tended toward phase separation more strongly than older ones. Within 12 hours stabilizing was observed. (Author)

Litvakovskii, A. A.
FUSED CAST REFRACTORIES, tr. by I. Morgenstern. 1961, 273p. 239 refs. PL-480 Int.
Order from OTS $2.75 60-51137

Trans. of mono. Plavlenye Litye Ogneupory, Moscow, 1959 [308]p.

DESCRIPTORS: *Refractory materials, Corrosion resistant alloys, Crystal structure, *Casting, Heat treatment, Production, Chemical analysis, Melting, Glass, Walls, Temperature, Oxides, Metals, Zirconium compounds, Dioxides, Mixtures, Thermal insulation, Aluminum compounds, Silicates, Silicon compounds, *Fused materials, Heat resistant alloys

Properties of refractory oxides were studied in order to find the best components of refractories, establish the utility of the mono- and multicomponent compositions, select the best among them (from the technical and economical point of view) and compare the advantages of firing and fusion as fundamental technical methods. The study of the Al_2O_3-SiO_2-ZrO_2 system permitted preparation of mixtures of the best mineralogical composition, which do not form a liquid phase up to almost 1,700^{0}C, but form a compact, fine crystalline structure. The composition Al_2O_3 52-54%, SiO_2 15-16% and ZrO_2 32% was chosen for brickwork of tank surfaces, and the technological process for the production of large blocks of this material, by melting and casting, was worked out. Laws were discovered governing the structure of high-melting metals and oxides, and their resistance to corrosion under the action of fused silicates. The high alumina zone of the ternary system Al_2O_3-SiO_2-ZrO_2 was drawn up and ways of adjustment of the structure of silicate castings were shown.

Fuels, Lubricants, and Hydraulic Fluids

BULLETIN OF THE ACADEMY OF SCIENCES USSR. DEPT. OF TECHNICAL SCIENCES, 1942, NO. 3/4: [TABLE OF CONTENTS] AND SELECTED ABSTRACT [1961] 2p.
Order from OTS or SLA $1.10 61-20499

Abstract trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1942, no. 3/4, p. 27-32.
A complete trans. is available from OTS or SLA $1.10 as 61-16654 [1961] 7p.

DESCRIPTORS: Gasoline, Internal combustion engines, Oxidation, *Fuels, Tests

Contents:
Oxidation of fuels in the intake system of the engine, by B. A. Kravets and A. S. Sokolik

Ammosov, I.I. and Babinkova, N.I.
TOEPASSING VAN DE LUMINESCENTIEMETHODE VOOR HET KARAKTERISEREN VAN DE EIGENSCHAPPEN VAN MINERALE KOLEN (Use of the luminescence method for characterizing the properties of coals). 17 p. 18 refs. MTWL: 568. (Text in Dutch).
Order from OTS or ETC $1.85 61-17120

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1951, no. 3, p. 341-349.

DESCRIPTORS: *Coal, *Luminescence, Fluorescence, Sovent Extraction, Test Methods.

Bartel, A. A., Graue, G., and Lückerath, W.
A HIGH-TEMPERATURE, HIGH-PRESSURE LUBRICANT AND DATA ON ITS PERFORMANCE. PT. I. Dec 61, 4200 words.
Order from HB $11.80 HB-5268

Trans. of Stahl und Eisen (West Germany) 1961, v. 81, no. 18, p. 1183-1187.

DESCRIPTORS: *Lubricants, Temperature, Pressure.

Chukhanov, Z.F.
SCHEIDING VAN DE VOORVERWARMING EN HALF-VERKOOKSING VAN BRANDSTOFDEELTJES (Separation of the preheating and semicoking of fuel particles) 9 p. 1 ref. MTWL: 538. (Text in Dutch).
Order from OTS or ETC $1.55 61-17150

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 72, p. 687-690.

Descriptors: *Fuels, Combustion, Heating, Pyrolysis.

Kuznetsov, S. I.
STUDY OF THE POSSIBILITY OF THE RECENT FORMATION OF METHANE IN THE GAS- AND OIL-BEARING FACIES OF THE SARATOV AND BUGURUSLAN REGIONS. 18 p. 36 refs. MTWL: 348.
Order from OTS or ETC $1.85 61-17221

Trans. of Mikrobiologiya (USSR) 1950, v. 19, no. 3, p. 193-202.

DESCRIPTORS: *Methanes, *Oil, *Decomposition, Microorganisms.

Merigoux, R. and Taxy, M.
STUDY OF THE TENSIOMETRIC PROPERTIES OF AN OIL BY A PENDANT-DROP DEFORMATION TECHNIQUE. [1961] 10p.
Order from ATS $14.20 ATS-73N56F

Trans. of Rev[ue de l']Inst[itut] Franc[ais du] Pétrole et Ann[al es des] Combustibles Liquides, 1961, v. 16, no. 2, p. 150-160.

DESCRIPTORS: *Oils, Tensile properties, Determination, Deformation, *Tensiometers.

Nadziakiewicz, J., Warmuziński, J., and Balczewski, A.
DE INVLOED VAN HET WATERGEHALTE VAN KOOL OP HET VERKOOKSINGSPROCES (The influence of moisture content in coal on the coking process). 13 p. MTWL: 678. (Text in Dutch).
Order from OTS or ETC $1.55 61-17190

Trans. of Przeglad Górniczy (Poland), 1951, v. 7, no. 4, p. 160-163.

DESCRIPTORS: *Coal, *Humidity, processing, high temperature research.

Sidel'kovskiĭ, L.N.
DE VOORWAARDEN VOOR EEN SLAKLOZE STABIELE WERKING VAN OVENS MET "KOKEND BED" (Conditions on a stable working without slag, of furnaces with fluid bed). 9 p. 4 refs. MTWL: 578. (Text in Dutch).
Order from OTS or ETC $1.55 61-17110

Trans. of Za Ekonomiyu Topliva (USSR) 1951, v. 8, no. 6, p. 25-26.

DESCRIPTORS: * Coal, *Fuels, Heat production, Fluid Flow, Powders.

Syromyatnikov, N.I.
RESULTATEN, VERKREGEN BIJ DE BEPROEVING VAN OVENS, WERKENDE MET EEN "KOKEND" OF GESUSPENDEERD BED OF VOLGENS HET LUCHT-FONTEINPRINCIPE (Results of the testing of furnaces, working with fluid bed or according to the airflow-principle). 10 p. MTWL: 533. (Text in Dutch).
Order from OTS or ETC $1.55 61-17145

Trans. of Za Ekonomiyu Topliva (USSR) 1951, v. 8, no. 2, p. 17-21.

DESCRIPTORS: *Combustion chambers, Fluid flow, Gas flow, Fuels.

Val'dman, V.L.
THE INFLUENCE OF THE CHEMICAL COMPOSITION OF LUB OILS ON THE EFFECTIVITY OF POUR POINT REDUCERS. 9 p. 8 refs. MTWL: 663
Order from OTS or ETC $1.55 61-17195

Trans. of Kolloidnyĭ Zhurnal (USSR), 1953, v. 15, no. 1, p. 6-10.

DESCRIPTORS: *Lubricant additives, detergents, Adsorption, Waxes, Crystallization, Viscosity, *Lubricants (low temp.l.), Cooling.

Leather and Textiles

Dubach, P.
SYSTEMATIC TEXTILE RESEARCH AND CONSTRUCTION OF TEXTILE APPARATUSES. [1961] [17]p. 14 refs.
Order from SLA $1.60 61-20650

Trans. of Melliand Textilberichte (West Germany) 1958, v. 39 [no. 12] p. 1327-1332.

DESCRIPTORS: Industrial research, *Textiles, *Textile industry, Construction, Industrial plants, Cotton cellulose, Cotton textiles, Cleaning, Machines, Quality control.

Glikman, L.
THE EFFECT OF STRUCTURE ON THE STRENGTH OF TWISTED COTTON THREAD. [1961] 5p.
Order from ATS $9.45 ATS-12N57R

Trans. of Izvest[iya] Vysshikh Ucheb[nykh] Zavedenii. Tekhnol[ogiya] Tekstil'[noi] Prom[yshlennosti] (USSR) 1960 [v. 4] no. 3, p. 9-13.

DESCRIPTORS: *Cotton, *Threads, Cotton textiles, Textiles, Mechanical properties.

Griehl, Wolfgang and Versaumer, Heinz.
ON THE SPINNING OF POLYCONDENSATE FIBERS AT HIGH SPEEDS OF DELIVERY (QUICK SPINNING). [1961] 12p. 6 refs.
Order from SLA $1.60 61-20633

Trans. of Faserforschung und Textiltechnik (Germany) 1958, v. 9, no. 6, p. 226-231.
Another trans. is available from SLA mi$2.40, ph$3.30 as 60-18400 [1960] [19]p.

DESCRIPTORS: *Synthetic fibers, Processing, *Textiles, *Nylon, Industrial production, Plastics, Polymers, Fibers.

For abstract see Technical Translations 4: 630, 1960.

Ivanov, N. and Schneider, R.
A CELL WITH CIRCULATING BATH FOR MICROSCOPIC STUDY OF THE PHENOMENA OF DYEING FIBERS. [1961] 12p. 5 refs.
Order from SLA $1.60 61-20713

Trans. of an unidentified article from Institut Textile de France. Bulletin, n.d., n.v.

DESCRIPTORS: *Textile industry, *Synthetic fibers, Production, *Dyeing, *Microscopic analysis, Temperature, Wet cells, Electrical equipment, Chemical analysis, Pipettes

A cell is described that can serve for study of the action of any reactant on textile fibers or even, after modification, on objects other than fibers. It can be placed on a hot stage (the Eisenberg type of Leitz for example), which allows study at different temperatures. The cell is composed of two glass slides having parallel plane faces (10 x 73 mm) which are applied one on another. The base-slide B (thickness about 1.4 mm) is crossed its whole length by a flat-bottomed groove 3 mm wide and 0.06 mm deep. In placing the cover-slide A on the slide B, a closed conduit is formed which resembles a capillary tube of rectangular cross-section. Some rubber tubing serves for the inlet and outlet for liquids and holds the two parts of the cell together. (See also 60-22306)

Lebedev, N.D.
HOW TO REDUCE YARN BREAKAGE IN COTTON RING SPINNING MACHINES. 7 p. MTWL: 553.
Order from OTS or ETC $1.55 61-17125

Trans. of Tekstil'naya Promyshlennost' (USSR) 1948, no. 6, p. 22-23.

DESCRIPTORS: *Cotton textiles, Threads.

Mikhailov, N. V. and Fainberg, E. Z.
STUDIES ON THE MOLECULAR STRUCTURE OF SYNTHETIC FIBERS. XV. THERMOCHEMICAL PROPERTIES OF THE POLYAMIDE SERIES: POLYCAPRAMIDE TO POLYUNDECANAMIDE. [1961] [8]p. 7 refs.
Order from OTS or SLA $1.10 61-20637

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1959, v. 1 [no. 2] p. 201-207.

DESCRIPTORS: *Synthetic fibers, Materials, *Amides, Properties, Thermodynamics, Polymers, Heat of solution, Phase transitions, Methanes, Ethylenes, Polymers, Molecular structure, Thermochemistry, Fibers

A comparative study was made of the thermodynamic properties of the polymers of the polyamide series: polycapramide to polyundecanamide. On the basis of measurements of heat capacities and heats of solution and swelling it was shown that upon increasing the number of methylene groups in the polyamide repeat unit there occur two opposing but interconnected events: an increase in the flexibility of molecular chains and an increase in the crystallinity of the polymer. The transition from polyamide "5" to polyamide "6" is characterized by an increase in the flexibility of the molecular chains, while in the transition from polyamide "6" to polyamide "7" there is an increase in the crystallinity of the polymer. On the basis of the results of measurements of the heats of solution and of heat capacity the hypothesis was made that the transition from polyamide "7" to polyamide "8", "9" and "10" is accompanied by an increase in the crystallinity of the polymers. There is no linear relation between heat capacity and the content of amide bonds (in mole %) over the whole series of polyamides with odd and even numbers of methylene groups, a fact which indicates the dual nature of the polyamides. (Author) (See also 61-20638)

Nitschmann, Hs. and Schrade, J.
THE THREAD FORMATION OF LIQUIDS AS A VISCOSITY ANOMALY. [1961] 39p. 38 refs.
Order from SLA $3.60 61-20292

Trans. of Helvetica Chimica Acta (Switzerland) 1948, v. 31, p. 297-319.

DESCRIPTORS: *Liquids *Threads, *Viscosity, *Synthetic fibers, *Textile industry.

Suzawa, Toshiro.
ZETA-POTENTIAL AND SURFACE CHARGE DENSITY OF WOOL FIBER IN BASIC DYE SOLUTION. Studies on Zeta-Potential of Natural and Synthetic Fiber in Dye Solutions, no. 11. [1961] 11p. 4 refs.
Order from SA $15.00

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 2, p. 367-368.

DESCRIPTORS: *Woolen textiles, Textiles, *Synthetic fibers, *Dyes, Surface area, Surface properties.

Takahashi, Masao.
STUDIES ON ACRYLIC FIBER. XXVI. EFFECTS OF SPINNING CONDITIONS ON THE FINE STRUCTURE OF FILAMENTS. [1961] 10p. 4 refs.
Order from SA $15.00 SA Code-66

Trans. of Kōbunshi Kagaku (Japan) 1961, v. 18, no. 191, p. 163-168.

DESCRIPTORS: *Acrylonitriles, *Synthetic fibers, Fibers, Processing, Porosity, Coagulation, Filaments, Electron, Microscopy, Microstructure.

Watanabe, Masamoto.
VISCOSITY FORMULAS OF POLYAMIDE AT HIGH CONCENTRATION. [1961] 8p. (2 figs. omitted) 7 refs.
Order from SLA $1.10 61-20266

Trans. of unidentified article pub. by Department of Synthetic Fibers, Toyo Rayon Co., 1950.

DESCRIPTORS: *Amides, Polymers, *Viscosity, *Synthetic fibers, *Textile industry, Moleuclar weight

It is a well known fact that Baker's viscosity formula is applicable up to fairly high concentrations. However, the intrinsic viscosity $[\eta]$ calculated by the empirical equation by Schulz, Blaschke, and Huggins deviates from the true value when the concentration is high. According to many experimental results, it was found that the following empirical equation with a simple correction term $-\eta_{sp}^2/70$:

$$\eta_{sp}/c = [\eta](1 + K\eta_{sp} - \eta_{sp}^2/70)$$

is applicable to high concentrations in the case of polyamides. (Author)

Photographic Materials

Anfilov, I. V. and Fridkin, V. M.
ON THE THEORY OF THE DEVELOPMENT OF A LATENT ELECTROPHOTOGRAPHIC IMAGE, tr. by Carl Demrick. [1961] 5p. (2 equations omitted) 6 refs.
Order from OTS or SLA $1.10 61-20978

Trans. of [Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii] (USSR) 1959, v. 4, no. 1, p. 32-34. Another trans. is available from LC or SLA mi$1.80, ph$1.80 as 60-14000, DSIR NLL M. 1574 [1959] 5p.

DESCRIPTORS: *Electrophotography, Theory, Dyes, Particles, Dielectrics, Density, Surfaces, Differential equations, Photographic equipment, Chemical analysis

For abstract see Technical Translations 3: 374, 1960.

Borin, A. V. and Mishakova, M. V.
A STUDY OF THE AGING OF PHOTOGRAPHIC EMULSIONS. [1961] 9p.
Order from ATS $14.10 ATS-52N57R

Trans. of Vsesoyuz[nyi] Nauch[no]-Issledovatel'[skii] Kinofotoinst[itut]. Trudy (USSR) 1960, no. 37, p. 95-106.

DESCRIPTORS: *Photographic emulsions, Aging.

Kinoshita, K. and Nakamura, K.
PERSISTENT INTERNAL POLARIZATION OF PHOSPHORS AND ITS APPLICATION TO ELECTROPHOTOGRAPHY. [1961] 10p.
Order from ATS $15.15 ATS-55N57J

Trans. of Denshi Shashin (Japan) 1961, v. 3, no. 1, p. 18-24.

DESCRIPTORS: *Phosphors, Polarization, *Electrophotography, Photography.

Kiwaki, H., Komeiji, S., and Nakasone, H.
TEST RESULTS ON THE RESOLVING POWER OF ELECTROPHOTOGRAPHY. [1961] 7p.
Order from ATS $10.80 ATS-57N57J

Trans. of Denshi Shashin (Japan) [1961] v. 3, no. 1, p. 27-31.

DESCRIPTORS: *Electrophotography, Photography.

Nagashima, S. and Goto, K.
ELECTROPHOTOGRAPHIC ENGRAVING METHOD. [1961] 12p.
Order from ATS $17.85 ATS-58N57J

Trans. of Denshi Shashin (Japan) 1961, v. 3, no. 1, p. 32-38.

DESCRIPTORS: *Electrophotography, Photography, *Photoengraving.

Nozaki, H.
SUGGESTION ON THE SENSITOMETRY OF ELECTROPHOTOGRAPHY. [1961] 5p.
Order from ATS $8.75 ATS-56N57J

Trans. of Denshi Shashin (Japan) 1961, v. 3, no. 1, p. 25-26.

DESCRIPTORS: *Electrophotography, Photography, Sensitivity.

Pankova, A. A. and Bogomolov, K. S.
THE EFFECT OF THE SENSITIZING SOLUTION ON THE RECRYSTALLIZATION OF SILVER BROMIDE AND THE PHOTOGRAPHIC PROPERTIES OF NUCLEAR EMULSIONS. [Vliyanie Sensibiliziryuyshchego Rastvora na Perekristallizatsiyu Bromistogo Serebra i na Fotograficheskie Svoistva Yadernykh Emul'sii]. [1961] 8p.
Order from ATS $10.35 ATS-62N56R

Trans. of Vsesoyuz[nyi] Nauch[no]-Issledovatel['skii] Kinofotoinst[itut]. Trudy (USSR) 1957, no. 11(21), p. 49-57.
Another trans. is available from LC or SLA mi$2.70, ph$4.80 as UCRL Trans-456 [1960] 23p.

DESCRIPTORS: *Photographic emulsions, Sensitivity, *Silver compounds, *Bromides, Solutions, Crystallization, Grains (Metallurgy).

For abstract see Technical Translations 5: 320, 1961.

Yoshida, K., Kawamura, T., and Kamiuchi, S.
X-RAY CHARACTERISTICS OF ELECTROPHOTOGRAPHY, PT. I. [1961] 5p.
Order from ATS $8.55 ATS-54N57J

Trans. of Denshi Shashin (Japan) 1961, v. 3, no. 1, p. 15-18.

DESCRIPTORS: *Electrophotography, X-rays.

Plastics

Bayer, Otto.
SYNTHETIC ORGANIC HIGH POLYMERS, I. Note on the Paper by Th. Lieser and Karl Macura. [1961] 3p. 1 ref.
Order from SLA $1.10 61-10661

Trans. of mono. (paper) Künstliche Organische Hochpolymers, pub. by the Scientific Main Laboratory of the Leverkusen Works of the I. G. Farbenindustrie, 1941(?), p. 286-287.

DESCRIPTORS: Polymerization, *Polymers, Decomposition, Melting, Cellulose chemistry, Aliphatic compounds, Molecular structure, Molecular weight, Hydrogen, Atoms, *Urethanes, *Organic compounds, Industrial research.

Tatevos'yan, G. O.
AT THE EXPOSITION OF ACHIEVEMENTS IN THE NATIONAL ECONOMY USSR. 30 Nov 61 [17]p.
JPRS: 11386.
Order from OTS or SLA $1.60 62-13686

Trans. of Plasticheskie Massy (USSR) 1961, no. 8, p. 69-75.

DESCRIPTORS: *Plastics, *Glass textiles, Textiles, Production, Epoxy resins, Resins, Adhesives, Economics, USSR.

Zimmer, H. J.
THE ZIMMER HOT MELT (ROLLER COATING) PROCESS FOR COATING PAPER OR BOARD WITH THERMOPLASTIC SUBSTANCES. Das Zimmer-Walzenschmelzverfahren zur Beschichtung von Papier oder Karton mit Thermoplastischen Kunststoffen] [1961] 4p. (4 figs. omitted).
Order from SLA $1.10 61-20193

Trans. of Allgemeine Papier-Runds[chau] (West Germany) 1960, no. 8, p. 443-447.

DESCRIPTORS: *Paper, *Coatings, Plastic coatings, Finishes, Heat treatment.

Rubber and Elastomers

Bächle, O.
THE DRYING SPEED OF FILMS FROM LATEX. [1961] 21p. (6 diagr. omitted)
Order from SLA $2.60 62-10123

Trans. of Kautschuk und Gummi (Germany) 1949, v. 2, no. 11, p. 337-343.

DESCRIPTORS: *Rubber, Films, Dehydration, Tests, Vapor pressure, Humidity, Coagulation

Hoschl, C.
PRESS POWER BETWEEN TWO RUBBER LINED ROLLERS (CYLINDERS). [1961] 18p.
Order from STT $10.00 STT-145-288

Trans. of Strojirenstvi (Czechoslovakia) 1960, v. 10, no. 12, p. 901-906.

DESCRIPTORS: Cylinder liners, *Rubber, Rubber coatings, Power.

Kuz'minskiĭ, A.S., Shanin, L.L., and Lezhner, N.N.
DIFFUSIE VAN ZUURSTOF EN OXYDATIE VAN RUBBER IN AANWEZIGHEID VAN PHENYL- -NAPHTYLAMINE (Diffusion of oxygen and oxidation of rubber in the presence of phenyl-2-naphtylamine). 8 p. 4 refs. MTWL: 557. (Text in Dutch).
Order from OTS or ETC $1.55 61-17129

Trans. of Akademiya Nauk SSSR. Doklady, 1951, v. 79, no. 3, p. 467-470.

DESCRIPTORS: *Rubber, *Oxidation, Oxygen, Diffusion, Amines.

Wood and Paper

Andersen, C. W.
PROBLEMS REGARDING PAPER MACHINE HEAD BOXES. Sep 61, 11p. (18 figs. omitted).
Order from SLA $1.60 61-20690

Trans. of Svensk Pappers-tidning, 1961, v. 64, no. 12, p. 461-468.
Another trans. is available from SLA $1.60 as 61-20468, 11 Sep 61, 17p.

DESCRIPTORS: *Wood pulp fibers, Particles, Separation, Precipitation, *Paper industry, *Wood pulp machines, Containers, Model tests, Vortices, Configuration, Diffusers.

Giese, E. and Schmidt, E.
A CONTRIBUTION TO THE PROBLEMS OF MOISTURE MEASUREMENT IN RUNNING PAPER WEBS. Aug 61, 19p. (5 diagr. 5 figs. omitted) 15 refs.
Order from SLA $1.60 61-20043

Trans. of Zellstoff u[nd] Papier (Germany) 1961, v. 10, no 4, p. 138-149.

DESCRIPTORS: Paper industry, *Moisture, *Humidity, Measurement, Elastic webbing, Temperature, *Paper, Dyes, Sizing, Quality control, Production.

Investigations made on an experimental device based on the principle of measuring the dielectric constant showed that instrument readings are greatly affected by disturbing factors originating from the paper such as basis weight, filler content and the type of pulp. Measurements are hardly affected by the degree of sizing, pH value and added dyes. The type of added filler renders the reading erroneous only within certain limits. Variations in relative humidity and paper temperature have a major influence on measurements. The dispersion range encountered with the

readings, obtained by summating the individual factors originating from the paper, is between ±0.30 and ±0.40% moisture content, provided that the scale calibration is well matched to the paper involved. However deviations of ±0.50% are quite possible, especially if several types of paper or papers having different basis weights are produced on one and the same paper-making machine. The measuring accuracy achievable with such equipment is, over the normal moisture content range, not less than ±0.5 to ±0.6% moisture content. (Author)

Jayme, G. and Reimann, K.
THE DETERMINATION OF ROSIN IN THE CIRCULATING AND WASTE WATERS OF A PAPER MACHINE. Apr 61, 20p. (5 figs. omitted) 22 refs.
Order from SLA $1.60 61-18266

Trans. of das Papier (West Germany) 1959, v. 13, no. 9/10, p. 190-200.

DESCRIPTORS: Organic materials, Inorganic substances, Water, Chemical analysis, *Paper industry, Precipitation, Separation, Production, Cellulose chemistry, *Resins, Determination, Wood pulp machines.

Ogait, A.
A RAPID METHOD FOR DETERMINING HARMFUL PITCH IN SOFT-WOOD PULPS. [1961] 8p. (4 figs. omitted) 11 refs.
Order from SLA $1.10 61-20189

Trans. of das Papier (West Germany) 1961, v. 15, no. 1, p. 10-16.

DESCRIPTORS: *Wood pulps, *Pitch, Determination, Separation, Flotation, *Paper industry, Chemical engineering.

Details are given of a rapid method for determining harmful pitch in coniferous wood pulps which, as compared with previous methods, has the advantage of providing results within a relatively short period and is also capable of use for routine determination. Separation of the harmful pitch is effected by flotation, the quantity separated being determined by turbidity measurement. (Author)

MATHEMATICS

Courant, R.
PARTIAL DIFFERENTIAL EQUATIONS. Methods of Mathematical Physics, v. 2. 1961, 824p.
Order from IP $16.00

Trans. of unidentifed German mono., v. 2, rev., n.p., n.d.

DESCRIPTORS: *Mathematics, *Physics, *Partial differential equations, Differential equations, Theory.

Gol'shtein, E. G.
AN INFINITE-DIMENSIONAL ANALOG OF THE PROBLEM OF LINEAR PROGRAMMING AND ITS APPLICATIONS TO CERTAIN QUESTIONS IN THE THEORY OF APPROXIMATIONS. 1 Dec 61 [8]p. 9 refs. JPRS: 11309.
Order from OTS or SLA $1.10 62-13652

Trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 140, no. 1, p. 23-26.

DESCRIPTORS: *Scheduling, Numerical analysis, Theory, Functions, Polynomials, Integrals, Functional analysis

The author formulates one of the possible infinite-dimensional analogs of the problem of linear programming. To this end he establishes a criterion of optimality, which he then uses to obtain a number of results in the theory of approximations. (Author)

Klimushev, A. I.
ASYMPTOTIC STABILITY OF A SYSTEM OF DIFFERENTIAL EQUATIONS WITH A SMALL PARAMETER. [1961] 12p. 3 refs. MDF K-255.
Order from OTS or SLA $1.60 62-15614

Trans. of Sib[irskii] Mate[maticheskii] Zh[urnal] (USSR) 1961, v. 2, no. 1, p. 59-67.

DESCRIPTORS: *Differential equations, Theory, Special functions, Numerical methods and procedures, Complex variables

A method for composing Liapunov functions in the shape of a quadratic form for a linear system of differential equations containing small parameters in the derivatives in two of the equations of the system is proposed for the case wherein the Liapunov function is known in the shape of a quadratic form of the degenerate system. Conditions are established which result in the uniform asymptotic stability of the original system being a consequence of the uniform asymptotic stability of the degenerate system.

Samal, E.
PROGRAMME CONTROLLERS. Nov 61.
Order from BISI £3 10s BISI-2439

Trans. of AEG Mitteilungen (Germany) 1960, v. 50, Aug/Sep, p. 335-341.

DESCRIPTORS: *Programming, Control systems.

MECHANICS

Barenblatt, G.I.
SOME IRREGULAR MOTIONS OF A LIQUID AND A GAS IN A POROUS MEDIUM. 17 p. 4 refs. MTWL: 627.
Order from OTS or ETC $1.85 61-17229

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1952, v. 16, no. 1, p. 67-78.

DESCRIPTORS: *Porous materials, Fluid flow, Gas flow, *Aerodynamics, *Hydrodynamics, Theory.

Kalinin, N.K. and Polubarinova-Kochina, P.Ya.
VERANDERLIJKE BEWEGING VAN GRONDWATERS MET EEN VRIJ OPPERVLAK (On unsteady motion of groundwater with a free surface). 17 p. MTWL:575. (Text in Dutch).
Order from OTS or ETC $1.85 61-17107

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1947, v. 11, p. 231-236.

DESCRIPTORS: *Hydrology, *Fluid Mechanics, *Mathematics, Velocity, Soils.

Khovanskiĭ, A. N.
ON THE DERIVATION OF THE FUNDAMENTAL EQUATIONS OF FILTRATION OF AN ELASTIC LIQUID IN AN ELASTIC POROUS MEDIUM. 8p. MTWL: 731.
Order from OTS or ETC $1.55 61-17276

Trans. of Akademiya Nauk SSSR. Doklady, 1953, v. 89, no. 2, p. 241-244.

DESCRIPTORS: *Equations, Theory, *Porous filters, *Liquids, Elasticity.

Krasyakova, L.I.
SOME CHARACTERISTICS OF THE MOVEMENT OF A TWO-PHASE MIXTURE IN A HORIZONTAL TUBE. 23 p. 7 refs. MTWL: 633. (Text part. in Russian).
Order from OTS or ETC $1.91 61-17205

Trans. of Zhurnal Tekhnicheskoĭ Fiziki (USSR), 1952, v. 22, no. 4, p. 656-669.

DESCRIPTORS: Gas, Water, *Aerodynamics, Hydrodynamics.

Ruppeneĭt, K.V.
EXPERIMENTELE BEPALING VAN DE SPANNINGEN LANGS DE ZIJDEN VAN GEDRUKTE CYLINDERS. (Experimental determination of the strain along the casings of compressed cylinders). 6 p. 2 refs. MTWL: 603. (Text in Dutch).
Order from OTS or ETC $1.55 61-17243

Trans. of Akademiya Nauk SSSR. Doklady, 1951, v. 77, p. 799-801.

DESCRIPTORS: *Stresses, *Cylindrical bodies, Pressure, Determination.

Velikanov, M.A.
MOVEMENT OF A HEAVY PARTICLE IN A TURBULENT STREAM; 8 p. MTWL: 620.
Order from OTS or ETC $1.55 61-17240

Trans. of Akademiya Nauk SSSR. Doklady, 1952, v. 85, no. 3, p. 555-558.

DESCRIPTORS: *Turbulent flow, Solids, Motion, Theory.

Yankovskaya, L.V.
DE VOORNAAMSTE PHYSISCHE PROCESSEN BIJ HET REMCONTACT (Principal physical processes during the braking contact). 13 p. 5 refs. MTWL: 525. (Text in Dutch).
Order from OTS or ETC $1.85 61-17157

Trans. of Zhurnal Tekhnicheskoĭ Fiziki (USSR) 1950, v. 20, p. 412-419.

DESCRIPTORS: *Friction, Elasticity, *Friction brakes.

METALLURGY

METALLURGY AND CORROSION PROTECTION. [Jan 62] 127p. 22 refs. PL-480 Comm.
Order from OTS $1.25 60-51088

Trans. from Peredovoi Nauchno-Technicheskii i Proizvodstvennyi Opyt (USSR) 1958.

DESCRIPTORS: *Metallurgy, *Corrosion research, Corrosion, Metals, Corrosion inhibition, Coatings, Climatic factors, Tropical deterioration, Deterioration, Countermeasures, Thermochemistry, Heat treatment, Instrumentation, Powder metals, Processing, Polarization, Electrochemistry, Steel, Crystallization, Tracer studies.

Contents:

Thermochemical and heat treatment of ferrous and nonferrous metals (Tema 3, no. M-58-264/10)
1. Arrangement for automatic control for barium chloride baths, by V. F. Rybin, p. 3-5
2. Increasing the capacity of SEP-146 electric furnaces for the heat treatment of parts, by A. M. Kuznetsov, p. 6
3. Improved high-frequency AZ-43 electronic-tube generator for heat-treatment furnaces, by A. P. Bystrikov and V. A. Romanov, p. 7-8
4. Device for hardening large threads with a high-frequency current, by V. F. Efremchenko, p. 9-10
5. Continuous quenching of thin steel strips, by S. A. Sokolov, p. 11-12
6. Refrigeration treatment of bearing rings, by Yu. K. Koz'minykh and S. T. Shevakhin, p. 13-15

Experience in the manufacture of powder metal parts, by V. I. Blagin (Tema 4, no. M-58-370/4, p. 3-13

Protection of metals from corrosion, wear-resistant, finishing and decorative coatings (Tema 13, no. M-58-19/2)
1. Chemical nickel plating of steel parts, by L. N. Gazel'yan and R. N. Romanova, p. 3-7
2. Automatic pH-control unit in five nickel-plating tanks, by N. N. Kondrat'ev and Ya. N. Zaslavskii, p. 9-13
3. Device for current reversal mounted at electroplating tanks, by R. S. Ashel'rod, p. 15-17
4. Device for periodical change of current direction in electroplating tanks, by G. S. Zikeev and M. G. Slyatkes, p. 19-20

Anticorrosive coatings and materials for tropical climate conditions, by A. M. Gavrilyuk (Tema 13, no. M-58-178/20, 8p.)

Polarization by intermittent current in the electrochemical investigation of corrosion processes in media having a high electrical resistance, by Yu. N. Mikhailovskii (Tema 13, no. M-58-369/40, 11p.)

New antifriction materials and coatings, by I. Ya. Al'shits and L. N. Sushkina (Tema 19, no. M-58-388/8, 27p.

Investigations of the process of formation of chemical heterogeneities in the axial zone of an ingot during crystallization of killed steel by the method of radio tracers, by V. A. Dudkin (Tema 23, no. M-58-110/2, 29p.)

Avram, C.
FUEL OIL AND METHANE AS FUELS FOR BLAST FURNACES. Dec 61, 4600 words.
Order from HB $13.80 HB-5163

Trans. of Metalurgia si Constr[uctia de] Masini (Rumania) 1961, v. 13, no. 1, p. 1-9.

DESCRIPTORS: *Fuel oil, *Methanes, *Blast furnaces, Fuel injection

Balicki, S. and Leitl, J.
OXIDATION LOSSES OF LIQUID ALUMINUM AND ALUMINUM ALLOYS. Dec 61, 1400 words.
Order from HB $4.85 HB-5214

Trans. of Prace Instytutow [Ministerstwa] Hutnic[twa] (Poland) 1959, v. 11, no. 2, p. 71-74.

DESCRIPTORS: *Liquid metals, *Aluminum, Aluminum alloys, Alloys, Silicon alloys, Magnesium alloys, Zinc alloys, Copper alloys, Oxidation, Oxides

Barbazanges, C. and Richard, A.
CONSTRUCTION OF ELECTRIC ARC FURNACES. [1961] [45]p. 1 ref.
Order from SLA $4.60 61-18362

Trans. of l'Acierie Electrique [sic] 1957, Cahier [du Cessid] no. 1, p. 5-40.

DESCRIPTORS: *Electric furnaces, *Electric arcs, Construction, Combustion chamber liners, Ores, Reduction, Cast iron, *Steel, Production, Refineries, Liquid metals, Melting, Voltage, Castings, Quality control.

Bockstiegel, Gerhard.
DIAGRAM OF STATE AND REASONS FOR VOLUME CHANGES DURING SINTERING OF BLANKS CONSISTING OF IRON-COPPER AND IRON-COPPER-GRAPHITE POWDER MIXTURES (Erscheinungsbild und Ursachen von Volumenänderungen beim Sintern von Presslingen aus Eisen-Kupfer- und Eisen-Kupfer-Graphit-Pulvermischengen). Report no. 36 of the Powder Metallurgy Committee of the Verein Deutscher Eisenhüttenleute (West Germany). [1961] [66]p. (foreign text included) 15 refs.
Order from SLA $6.60 61-20075

Trans. of Stahl u[nd] Eisen (West Germany) 1959, v. 79, no. 17, p. 1187-1201.

DESCRIPTORS: *Powder metallurgy, Metal powders, Mixtures, *Iron, *Copper, *Graphite, *Sintering, Temperature, Density, Volume, Metallurgy.
Contents: Influence of sintering temperature (950 to 1250°C), the sintering period (30 to 480 min) and partly of the particle size and compacting density on changes in volume and length during sintering of blanks consisting of powdered iron-copper and iron-copper-graphite mixtures containing up to 20% Cu and 0 or 1% graphite; Interpretation of the process of volume change; Derivation of an equation for volume changes. (Author)

Bogdandy, L. von and Rieke, H. -G.
RATE OF REDUCTION OF IRON OXIDE BY HYDROGEN. Dec 61, 4300 words.
Order from HB $11.25 HB-5191

Trans. of Archiv [für das] Eisenhüttenwesen (West Germany) 1958, v. 29, no. 10, p. 603-609.

DESCRIPTORS: *Iron compounds, Oxides, Reduction, *Hydrogen, Ores.

Booss, H. -J.
CONTRIBUTIONS TO THE SURFACE TENSION OF BINDERS IN HARD-METAL ALLOYS (Beitrag zur Oberflächenspannung der Bindemetalle von Hartmetallegierungen). [1961] [13]p. (Foreign text included) 29 refs.
Order from SLA $1.60 61-20076

Trans. of Planseeberichte für Pulvermetallurgie (Austria) 1958, v. 6, p. 17-21.

DESCRIPTORS: *Surface tension, Liquids, Solids, Gases, *Iron alloys, *Tungsten compounds, *Carbides, *Cobalt alloys, *Binders, Metals, Alloys, Additives, Reduction, Cermets, Oxides, Valence, Semiconductors, Hydrogen, Nickel, Sintering.

Surface tension of binders for hard-material alloys is determined under conditions which approximately approach those of production. The relation $\gamma_{Ce} > \gamma_{Ni} > \gamma_{Fe}$ is valid for the surface tensions. Tungsten carbide additions reduce the surface tension of cobalt. Furthermore, it follows from the measurements that: (1) absolute measurements of surface tension for iron, nickel and cobalt should not be performed in a hydrogen atmosphere; (2) sintering should not take place in a hydrogen atmosphere in the production of Cermets on the basis of Al_2O_3/Me, (where Me = Fe, Ni, Co) because the wettability of the oxide is thereby reduced. (Author)

Budnikov, P.P. and Zhukovskaya, S.S.
SILICIUMBEPALING IN GIETIJZER EN STAAL VOLGENS DE VOLUMEMETHODE (Determination of silicon in cast iron and steel by a volumetric method). 6 p. 9 refs. MTWL:423. (Text in Dutch).
Order from OTS or ETC $1.55 61-17074

Trans. of Zhurnal Prikladnoĭ Khimii (USSR) 1948, v. 21, p. 959-961.

DESCRIPTORS: *Silicon, *Iron alloys, *Steel, Chemical analysis.

Cheburkova, E.E.
PHOTOCOLORIMETRISCHE METHODE TER BEPALING VAN SILICIUM IN GIETIJZER EN STAAL (Photocolorimetric determination of silicon in cast iron and steel). 5 p. MTWL: 425. (Text in Dutch).
Order from OTS or ETC $1.55 61-17077

Trans. of Zavodskaya Laboratoriya (USSR) 1948, v.14, no. 10, p. 1261-1262.

DESCRIPTORS: *Silicon, *Colorimetric analysis, *Iron alloys, *Steel.

Fastje, D.
RECONSTRUCTION AND INITIAL OPERATION OF THE KRUPP-RENN PLANT AT SALZGITTER-WATENSTEDT. [1960] [14]p. 2 refs.
Order from SLA $1.60 60-16791

Trans. of Technische Mitteilungen Krupp (West Germany) 1958, v. 16, no. 2 [p. 34-3e].

DESCRIPTORS: *Metallurgy, *Industrial plants, Germany, Construction, Operation.

Fischer, W. A. and Hoffmann, A.
THE BREAKDOWN OF WUSTITE IN THE SCALE LAYERS OF IRON TESTPIECES. Jan 62.
Order from BISI £5 15s BISI-2432

Trans. of Arch[iv für das] Eisenhütt[enwesen] (West Germany) 1959, v. 30, [no. 1] Jan, p. 15-20.

DESCRIPTORS: *Wustite, Decomposition, *Steel, *Iron, Corrosion, Temperature, Oxidation.

Funke, P. and Lueg, W.
ROLLING EXPERIMENTS ON A THREE-STAND TANDEM COLD-ROLLING TRAIN. Jan 62.
Order from BISI £7 10s BISI-2364

Trans. of Stahl [und] Eisen (West Germany) 1961, v. 81, 6 July, p. 909-920.

DESCRIPTORS: *Rolling mills, Operation.

Hashimoto, Hidefumi A.
AERODYNAMIC DESIGN OF OPEN-HEARTH FURNACES, PT. VIII (CONCLUSIONS). [1961] 10p. 4 refs.
Order from SLA $1.10 61-18366

Trans. of Tetsu to Hagane (Japan) 1957 [v. 43] p. 1194-1199..

DESCRIPTORS: *Open hearth furnaces, Design, Vortices, Combustion, Jets, Intensity, Model tests, *Iron industry, *Steel industry, Manufacturing methods, Industrial research.

The principal objects in the design of the open-hearth furnace are to remove eccentricity in uptake flow, or to kill its effect, to balance the spaces at the front and back of the furnace chamber, to have the vortices in the furnace arranged effectively to aid combustion, to adjust combustion with burned-jet intensity, to eliminate waste spaces and to circulate balanced flow through the checkerwork, etc. The designed dimensions and variation in performance according to furnace capacity are given, and simple explanations are made of the case in which actual application of model experimental results were made. (Author)
(See also 59-14835)

Hillmann, Hans and Mager, Albrecht.
PRODUCTION OF SINGLE CRYSTALS OF IRON BY THE ZONE -MELTING PROCESS [Erzeugung von Eiseneinkristallen durch das Zonenschmelsverfahren]. [1961] [11]p. (foreign text included) 14 refs.
Order from SLA $1.60 61-20447

Partial trans. (p. 663-664) of Z[eitschrift für] Metallkunde (West Germany) 1960, v. 51, no. 11, p. 663-666.
Complete translations are available from SLA $1.60 as 61-18299 [1961] [16]p. and BISI £3 as BISI-2146 [1961].

DESCRIPTORS: *Iron crystals, Single crystals, Production, *Zone melting, Crystals.

Hillmann, H[ans] and Mager, A[lbrecht].
[PRODUCTION OF SINGLE CRYSTALS OF IRON BY THE ZONE -MELTING PROCESS]: MEASUREMENTS OF ORIENTATION [Erzeugung von Eiseneinkristallen Durch das Zonenschmelsverfahren]: (Orientierungsmessunger). [1961] [10]p. (foreign text included) 5 refs.
Order from SLA $1.10 62-10319

Partial trans. (p. 664-666) of Z[eitschrift für] Metallk[unde] (West Germany) 1960, v. 51, no. 11, p. 663-666.
Another partial trans. (p. 663-664) is available from SLA $1.60 as 61-20447 [1961] [11]p.
Complete translations are available from SLA $1.60 as 61-18299 [1961] [16]p. and BISI £3 as BISI-2146 [1961].

DESCRIPTORS: *Iron crystals, Single crystals, Production, *Zone melting, Crystals.

For abstract see Technical Translations 6: 924, 1961.

Hori, Kazuo.
ON THE EFFECTS OF HEATING VELOCITY OF MELTING ON RUNNABILITY. Rept. no. 10 of A Study on Castability. [1961] [7]p. 3 refs.
Order from SLA $1.10 61-18361

Trans. of Nihon Kinzoku Gakkai-Shi (Japan) 1954, v. 18, no. 9, p. 549-551.

DESCRIPTORS: *Heating, *Velocity, *Melting, Temperature, Tests, Deterioration, Metals, *Zinc, *Castings, Liquid metals, Fluidized solids, Vortices, Fluids, Metallurgical analysis.

The effects of the heating velocity in melting on runnability were examined in relation to the variations in the maximum melting temperature and the holding time. The heating velocity, caused remarkable effects on the runnability. The higher the heating velocity the better the runnability in general. When the temperature of holding was fairly low, a certain holding time was necessary in order to obtain the best runnability; but when the holding temperature was high even a small holding time resulted in deterioration in runnability. The maximum melting temperature, holding time and heating velocity were very closely and delicately related to one another. But there must be an optimum combination of these three factors for each individual metal, and by using this it will be possible to achieve the best runnability.

Makarov, L. O.
A SIMPLE ULTRASONIC COLD-WELDING PROCESS. Dec 61, 700 words.
Order from HB $2.50 HB-5430

Trans. of #Akust[icheskii] Zhurnal (USSR) 1960, v. 6, no. 4, p. 507-508.

DESCRIPTORS: Metals, *Welding, Ultrasonic radiation.

Maslov, E.N.
OVER DE WRIJVINGSCOEFFICIENT BIJ GLIJDENDE WRIJVING TUSSEN METALEN EN BIJ HET SCHAVEN VAN METALEN (The coefficient of friction at sliding friction between metals and at the planing of metals). 8 p. 1 ref. MTWL: 517. (Text in Dutch).
Order from OTS or ETC $1.55 61-17169

Trans. of Zhurnal Tekhnicheskoĭ Fiziki (SSSR), 1950, v. 20, p. 888-891.

DESCRIPTORS: *Metals, Friction, Tests.

Medovar, B.I. and Asnis, A.E.
LASSEN BIJ LAGE TEMPERATUREN. OVER DE TOELAATBAARHEID VAN HET AUTOMATISCH LASSEN VAN METALEN CONSTRUCTIES UIT LAAG-KOOLSTOFSTAAL BIJ LAGE TEMPERATUREN (Welding at low temperatures. About the admission of the automatic welding of metal constructions of low crucible steel at low temperatures). 14 p. 11 refs. MTWL: 580 (Text in Dutch).
Order from OTS or ETC $1.85 61-17112

Trans. of Avtogennoe delo (USSR) 1947, no. 12, p. 15-17.

DESCRIPTORS: *Steel, *Low temperature alloys, *Welds, Low temperature research, Impact shock, Brittle materials.

Monma, Kaizo and Suto, Hajime.
EFFECT OF DISSOLVED OXYGEN ON THE SURFACE TENSION OF LIQUID COPPER. Pt. 5 of Fundamental Studies on Cermets. [1961] [10]p. 5 figs. omitted) 6 refs.
Order from SLA $1.10 61-20501

Trans. of Nihon Kinzoku Gakkai-Shi (Japan) 1960, v. 24, no. 6, p. 377-379.

DESCRIPTORS: *Liquid metals, *Cermets, *Copper, Surface tension, Oxygen, Adsorption, Metallurgy.

The surface tension of pure copper in a CO atmosphere is 1270 dyn.cm^{-1} which decreases significantly with the content of O. This phenomenon is more significant at lower temperatures. The surface excess of O at the surface of molten copper is estimated. According to this, it is known that the surface of molten copper which contains more than 0.01 wt-% of O, is covered with O, O^{--} (or Cu_2O) of about 1×10^{-9} mol.cm^{-2} regardless of the percentage of O. These facts indicate that the thickness of the adsorption layer is monoatomic (monomolecular). (Presented to the Japanese Metal Society, Tokyo Meeting, April 1956. (See also 61-18298)

Neyasov, A. G.
COKE ECONOMIES THROUGH ELIMINATION OF LIMESTONE FROM THE BLAST-FURNACE CHARGE (WHEN OPERATING ON FLUXED SINTER). Nov 61, 4400 words.
Order from HB $12.80 HB-5244

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1961, no. 5, p. 37-46.

DESCRIPTORS: *Blast furnaces, Operation, Economics, *Coke, *Sinters, Calcite, Reduction, *Fuel consumption.

Office of Technical Services, Dept. of Commerce, Washington, D. C.
EXPLOSIVE METAL FORMING. Dec 61, 6p. 66 refs. OTS Selective Bibliography SB-441, rev.

DESCRIPTORS: *Metals, *Explosive forming, *Bibliography

Lists 66 references on explosive metal forming. Includes reports on high energy rate forging, high impact forming, use of explosive energy in metal-working operations, and use of the Dynapak machine. (Author)

Ol'shanskii, N. A.
ON THE JOINING OF METALS BY ULTRASONIC WELDING. Dec 61, 2900 words.
Order from HB $5.40 HB-5463

Trans. of #Avtom[aticheskaya] Svarka (USSR) 1961 [v. 14] no. 3, p. 3-11.

DESCRIPTORS: Metals, *Welding, *Ultrasonic radiation, Copper, Aluminum.

Paidassi, J. and Lopez, J.
SOME CHARACTERISTICS OF THE OXIDATION OF MAGNETITE IN AIR IN THE RANGE 400-1350°C. [1961] [5]p. 6 refs.
Order from SLA $1.10 61-18395

Trans. of Acta Metallurgica (U. S.) 1958, v. 6, no. 3, p. 221-223.

DESCRIPTORS: *Oxidation, Minerals, Air, High temperature research, Gravimetric analysis, Oxides, Spinel, *Magnetite

Perchatkin, P. N. and others.
THE DISTRIBUTION OF SULPHUR BETWEEN METAL AND SLAG IN THE MELTING PERIOD DURING THE CONVERSION OF LOW MANGANESE IRON. Dec 61.
Order from BISI £4 15s BISI-2565

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chernaya Met[allurgiya] (USSR) 1960, no. 1, p. 33-40.

DESCRIPTORS: *Iron, *Manganese, *Slags, Melting, *Desulfurization, Conversion ratio, Sulfur, Distribution.

Popova, N.M., and Platonova, A.F.
BEPALING VAN CHROOM- EN IJZERCARBIDE IN AUSTENITISCHE CHROOMNIKKELSTALEN (Determination of chromium- and iron carbids in austenite steels), tr. by G.J.M. Fritschy. 9 p. 1 ref. MTWL: 342. (Text in Dutch).
Order from OTS or ETC $1.55 61-17215

Trans. of Zavodskaya Laboratoriya (USSR) 1948, v. 14, p. 658-661.

DESCRIPTORS: *AUstenite, Iron alloys, Steel, Chromium, Nickel, *Carbides, *Determination.

Scalise, V. and others.
THE MANUFACTURE OF NON-MAGNETIC END BELLS FOR TURBOALTERNATORS. Dec 61.
Order from BISI £4 BISI-2518

Trans. of mono. (paper) presented at the Conference on Heavy Forging, Terni, Sep 61.

DESCRIPTCRS: *Generators, *Forging.

Shekhter, A.B., Echestova, A.I., and Tret'yakov, I.I.
STRUCTUUR VAN MATAALFOLIËN VERSTOVEN OP ASBEST EN CARBON BLACK (Structure of thin metal layers sputtered on asbestos and on lampblack). 8 p. 3 refs. MTWL: 563. (Text in Dutch).
Order from OTS or ETC $1.85 61-17115

Trans. of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya. 1951, no. 1, p. 42-46

DESCRIPTORS: *Foils, Asbestos Fiber, Carbon Black, Metallic Smoke Deposits, *Vapor plating, Metal Coatings.

Sirotyuk, M. G.
TRANSFORMATION OF LONGITUDINAL SOUND WAVES INTO SHEAR OR TORSIONAL WAVES. Dec. 61.
Order from HB $2.00 HB-5431

Trans. of #Akust[icheskii] Zhurnal (USSR) 1959, v. 5, no. 5, p. 259.

DESCRIPTORS: Metals, *Welding, *Ultrasonic radiation, Sound, Aluminum.

Spasskii, A., Fomin, A., and Aleinikov, S.
THERMAL TREATMENT OF LIQUID METALS AND ITS EFFECT ON THE MECHANICAL PROPERTIES OF CASTINGS. [1961] 5p.
Order from ATS $9.50 ATS-25N56R

Trans. of Izvest[iya] Vysshikh Ucheb[nykh] Zavedenii. Tsvetnaya Met[allurgiya] (USSR) 1959 [v. 2] no. 6, p. 162-165.

DESCRIPTORS: *Liquid metals, Heat treatment, *Castings, Mechanical properties.

Stähli, G. and Sinner, E.
PRODUCTION OF (SEMI-) CONTINUOUS-CAST GRAY IRON BAR STOCK IN A WERTLI-TYPE HORIZONTAL CASTING MACHINE. Dec 61, 2400 words.
Order from HB $6.85 HB-5343

Trans. of Giesserei (West Germany) 1961, v. 48, no. 19, p. 545-558.

DESCRIPTORS: Cast iron, *Iron, *Casting, Machines.

Stoker, P.
THE OUTPUT OF BLOOMING MILL TRAINS AND THEIR CHARACTERISTICS. Jan 62.
Order from BISI £5 10s BISI-2132

Trans. of Stahl [und] Eisen (West Germany) 1961, v. 81, 2 Mar, p. 284-294.

DESCRIPTORS: *Rolling mills, Production, *Castings.

Svechnikov, V.N. and Gridnev, V.N.
POLYMORPHE OMZETTINGEN VAN IJZER IN LEGERINGEN VAN IJZER MET ZINK (Polymorphous transformations of iron in alloys of iron with zinc). 13 p. 8 refs. MTWL: 537. (Text in Dutch).
Order from OTS or ETC $1.85 61-17149

Trans. of Metallurg (USSR) 1937, v. 12, no. 1, p. 35-39.

DESCRIPTORS: *Iron alloys, *Zinc alloys, Iron, Phase transitions.

Sviderskaya, Z. A. and Vashchenko, A. A.
INFLUENCE OF COLD DEFORMATION ON THE PROPERTIES OF ALUMINIUM-COPPER AND ALUMINIUM-COPPER-MAGNESIUM ALLOYS UNDER DIFFERENT AGEING CONDITIONS [Vliyanie Kholodnoi Deformatsii na Svoistva Splavov Aluuminiimed' i Aluuminii-med'-Magnii pri Raznykh Usloviyakh Stareniya] tr. by S. Klemantaski. [1961] [10]p. 5 refs. FRI Trans. no. 155; [DSIR NLL] M. 4342.
Order from OTS or SLA $1.10 62-13101

Trans. of [Akademiya Nauk SSSR]. Inst[itut] Met[allurgii]. Trudy, 1960, no. 5, p. 95-99. Another trans. is available from OTS $0.50 as 60-41350, JPRS-4036, 13 Sep 60, 7p.

DESCRIPTORS: *Aluminum alloys, *Copper alloys, Aging, *Magnesium alloys, Mechanical properties, Deformation, Plasticity, Temperature, Acceleration, Phase studies, Hardening, Processing, Alloys.

For abstract see Technical Translations 5: 209, 1961.

Taketani, Kiyoaki.
THE DESIGN OF SPECIAL HOODS FOR MACHINING NATURAL URANIUM METAL. Pt. 4 of Studies on Uranium Fuel Element. Aug 61, 14p. 4 refs.
Order from OTS $0.50 AEC-tr-4464

Trans. of Nihon Genshiryoku Gakkaishi (Japan) 1959, v. 1, no. 6, p. 370-375.

DESCRIPTORS: *Uranium, Processing, Sheets, Production, Machining, Metals, Metallurgical laboratories, Machine tools, Drilling machines.

(See also 60-21967)

Tarmann, B.
CONTINUOUS CASTING OF HIGH GRADE STEELS (WITH DISCUSSION). Jan 62.
Order from BISI £6 15s BISI-2386

Trans. of Tech[nische] Mitt[eilungen] (West Germany) 1961, v. 54, Feb, p. 88-98.

DESCRIPTORS: *Steel, *Casting.

Temirenko, T.P.
BEPALING VAN SILICIUM IN STAAL MET DE PHOTO-ELECTRISCHE METHODE (Photoelectric determination of silicon in steel). 5 p. MTWL: 422. (Text in Dutch).
Order from OTS or ETC $1.55 61-17072

Trans. of Zavodskaya Laboratoriya (USSR) 1949, v. 15, no. 11, p. 1367.

DESCRIPTORS: *Steel, *Silicon, *Photoelectric effect, Determination.

Thieme, Jochem.
FIRE CRACKING OF CAST IRON ROLLING MILL ROLLS. [1959] 5p.
Order from SLA $1.10 61-20669

Trans. of Metallurgie und Gi[e]ssereitechnik (Germany) 1952 [v. 2] no. 1, p. 17-18.
Another trans. is available from BISI £2 as BISI-1233 [1959].

DESCRIPTORS: Rolling mills, *Cast iron, Processing, Production, Friction, Crazing.

Fire cracked rolling mill rolls were closely examined and it was found that thermal stresses were responsible for the appearance of fire cracks in materials with different susceptibility to this phenomenon. Further widening of the cracks is attributed to mechanical loading, though it was found that the structure under consideration was largely responsible for this. Their presence in the rolling mill depends greatly on the working procedure and can be aggravated by improper use to such an extent that defects may result. (Author)

Troost, Alex and Hölling, Karlheinz.
REMARKS ON A FEW THEORETICAL PLASTICITY FUNDAMENTALS OF STRIP ROLLING AND A SIMPLIFIED CALCULATION OF THE NO-SLIP POINT (Bemerkungen über einige Plastizitätstheoretische Grundlagen des Bandwalzens und eine Vereinfachte Berechnung der Fliessscheidenlage) [1961] [26]p. (foreign text included) 11 refs.
Order from SLA $2.60 61-20074

Trans. of Z[eitschrift für] Metallk[un]de (West Germany). 1961, v. 52, no. 2, p. 95-100.

DESCRIPTORS: *Rolling mills, *Plasticity, Design, Torque, Metals, Stresses, Mechanical properties, Friction, *Aluminum, *Steel, Processing

The use of dynamic and kinematic variables which describe the mechanical state of a differential element of a metal strip in the roll opening, the determination of the "effective stress"—often inaccurately called "compressive strength"—has been extensively discussed with special regard to the application of the uniaxial "effective stress" to the rolling operation. After this discussion of the theoretical principles of plasticity which in the past have not always been correctly applied, mean values of the "effective stress," which changes along the arc of contact, have been given for the calculation of rolling force and torque. These values, in contrast to those often found in the literature, are clearly defined. By means of a new solution of the differential equation for strip rolling, which was formerly used by Th. v. Karman, the expression for the stress distribution in the roll opening, with inclusion of slipping friction and sticking effects, can be greatly simplified for practical application. The relationships calculated hereby for the position of the no-slip point are compared with other methods of calculation and with test results from the cold rolling of aluminum and the hot rolling of steel. It is shown how this simplified method may be used to calculate rolling force and torque. (Author)

Trufyakov, V. I.
DETERMINATION OF FATIGUE STRENGTH OF WELDED JOINTS WITH DUE ALLOWANCE FOR RESIDUAL STRESSES. Nov 61, 5900 words.
Order from HB $14.75 HB-5060

Trans. of mono. Inter-University Conference on Welding [Moscow] 1958, p. 33-52.

DESCRIPTORS: *Welded joints, *Fatigue (Mechanics), Stresses, Joints, Steel.

Tseitlin, V. Z., Filatova, M. A. and others.
HEAT-RESISTING ALLOY (E1765) FOR TRANSPORT AND STATIONARY GAS TURBINES. Sep 60, [8]p. (2 figs. omitted). [DSIR LLU] M3146.
Order from OTS or SLA $1.10 61-27522

Trans. of Issled[ovaniya] po Zharoproch[nym] Splavam (USSR) 1959, v. 5, p. 173-178.

DESCRIPTORS: *Heat resistant alloys, *Gas turbines, Chemical analysis, Phase studies, Mechanical properties, Machining, Thermal stresses, Heat treatment, Hardness, Forging, Rupture, Aluminum, Titanium, Iron, Nickel, Cobalt, Chromium, Molybdenum, Tungsten, Boron compounds, Oxides

By increasing the Al/Ti ratio from about 1 to about 2, it was possible to reduce the precipitation of Ti from the α'-phase during prolonged heating and formation of separate phases which could increase the brittleness of the alloy. This modified alloy was given the code number E1765. A typical E1765 alloy was elsewhere stated to contain: C 0.09, Cr 14.5, Mo 4.2, W 5.2, Ti 1.3, Al 1.94, Fe 0.76, B 0.008, Ni balance.

Usatenko, Yu. I. and Orlova, Yu. Ya.
PHOTOCOLORIMETRISCHE BEPALING VAN SILICIUM IN GIETIJZER EN STAAL (Photocolorimetric determination of silicon in cast iron and steel) 7 p. 2 refs. MTWL: 446. (Text in Dutch).
Order from OTS or ETC $1.55 61-17053

Trans. of Zavodskaya Laboratoriya (USSR) 1949, v. 15, no. 11, p. 1365-1366.

DESCRIPTORS: *Silicon, *Colorimetric analysis, *Iron alloys, *Steel.

Vos, J. P. de.
ON THE ARRANGEMENT OF FINISHING TRAINS IN MULTI-STAND ROD MILLS. Dec 61.
Order from BISI £.7 BISI-2452

Trans. of Stahl [und] Eisen (West Germany) 1961, v. 81, 22 June, p. 870-880.

DESCRIPTORS: *Rolling mills

Weineck, H.
DATA PROCESSING AND AUTOMATION IN ROLLING MILLS. Dec 61.
Order from BISI £ 7 10s BISI-2536

Trans. of Bänder, Bleche, Rohre (West Germany) 1961, Apr, p. 153-162.

DESCRIPTORS: *Rolling mills, Data, Processing, *Automation, Steel industry.

Ferrous Metals

REHEATING OF INGOTS: SOAKING PITS. [1961] [9]p. 1 ref.
Order from SLA $1.10 61-18430

Trans. of la Technique Moderne (France) [1957] v. 49, no. 7, p. 366-369.

DESCRIPTORS: *Steel castings, Heat treatment, *Castings, Heating.

STEEL, 1960, NO. 11: EXTRACTS OF ARTICLES. 18 Oct 60 [24]p. JPRS: 4109.
Order from OTS or SLA $2.60 60-41633

Trans. of Kang T'ieh (Chinese People's Republic) 1960, no. 11, p. 649, 657-665, 671, 676-677.

DESCRIPTORS: *Steel industry, China, *Rolling mills, Design, Steel, Substitutes, Chromium alloys, Iron castings, *Cast iron

Contents:
Simplified six-high cold rolling mill for production of the thinnest steel strips, by Chang Shu-t'ang and Liu Hsiao-yu
Nodular cast iron rollers
Experiment with medium-carbon 40Cr adjusted structural steel substitution
News items.

Asnis, A.E.
DE BEPROEVING VAN STAAL VOOR LASCONSTRUCTIES, DIE AAN LAGE TEMPERATUREN WORDEN BLOOTGESTELD (Testing of steel for weldingconstructions, exposed to low temperatures). 14 p.
MTWL: 579. (Text in Dutch).
Order from OTS or ETC $1.85 61.17111

Trans. of Zavodskaya Laboratoriya (USSR) 1947, v. 13, p. 1100-1105.

DESCRIPTORS: *Steel, *Low temperature alloys, Test methods, *Welds, Low temperature research.

Aversten, J.
AUTOGENOUS DESEAMING FOR REMOVING SURFACE DEFECTS FROM INGOTS AND BLOOMS. [1961] 7p. (4 figs. omitted)
Order from SLA $1.10 61-18472

Trans. of Jernkontoret [Stockholm]. Annaler (Sweden) 1940 [v. 124] no. 5, p. 212-224.

DESCRIPTORS: *Steel castings, Surface properties, Processing, Fracture (Mechanics), Oxygen, Cutting torches, Economics, Castings.

Brokmeier, K. H.
USE OF THE INDUCTION FURNACE IN FOUNDING CAST IRON (Emploi du Four à Induction en Fonderie de Fonte) (Die Bedeutung der Induktionsöfen für die Giesserei). [1961] [25]p. (foreign text included).
Order from SLA $2.60 61-20832

Trans. of Fonderie (France) 1960, no. 179, p. 512-519 (originally pub. in German in Giesserei (West Germany) 1959 [v. 46] 12 Mar, p. 129-136.

DESCRIPTORS: Metals, Iron, Steel, Melting, Coating, *Cast iron, Production, *Electric furnaces, Operation, Economics.

Colin, J.
MANUFACTURE OF STEEL IN THE ARC FURNACE. [1961] [95]p. (2 figs. omitted).
Order from SLA $9.60 61-18364

Trans. of l'Acierie Electrique [sic] 1957 (Cahiers du Cessid) no. 2, pt. 4, p. 1-80.
Another trans. is available from BISI £14 as BISI-945, 1959.

DESCRIPTORS: *Steel, Production, *Electric furnaces, *Electric arcs, Melting, Dephosphorization, Manganese, Deoxidation, Impurities, Desulfurization, *Steel industry, Refractory materials, Combustion chamber liners

For abstract see Technical Translations 3: 318, 1960.

Drawin, H. W.
BAKABLE ULTRA-HIGH-VACUUM VALVE WITH LARGE CROSS SECTION. [1961] 8p. 8 refs.
Order from SLA $1.10 61-20541

Trans. of Vakuum-Technik (Germany) 1960, v. 9, no. 7, p. 199-201.

DESCRIPTORS: *Stainless steel, Metal plates Refineries, Seals, *Valves, Reliability, Metal screws, Vacuum operated valves, Structures, Welding, *Vacuum apparatus.

The new 35-litre valve is described which offers a particularly good reliability as a result of its completely welded structure. All parts in vacuo, with the exception of the screw mechanism and the light plate, consist of refined stainless steel.

Grdina, Yu. V. and Krepysheva, L. B.
INVESTIGATION INTO THE COMPOSITION OF THE GASEOUS PHASE IN STEEL SATURATED WITH HYDROGEN. Nov 61, 2400 words.
Order from HB $6.90 HB-5238

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1961, no. 4, p. 126-133.

DESCRIPTORS: *Steel, *Hydrogen, Temperature, Methanes, *Fracture (Mechanics).

Harr, Rudolph, Wagner, Karl, and Willmer, Theo-Kurt.
THE DUST REMOVAL PLANT OF THE L D STEEL PLANT OF "BOCHUMER VEREIN". [1961] [7]p. (7 figs. omitted) 1 ref.
Order from SLA $1.10 61-20949

Trans. of Berg- und Hüttenmannische Monatshafte (Austria) 1959, v. 104, no. 2, p. 50-55.
Another trans. is available from HB $6.40 as HB-4646 [1959] 2600 words.

DESCRIPTORS: *Waste gases, Cleaning, *Steel industry

Karmazin, V. I.
DEVELOPMENT OF ECONOMICAL FURNACES FOR THE MAGNETIC ROASTING BENEFICIATION OF ORES, tr. by S. Dobrinskii. [1961] [15]p. CRL/T.509; DSIR NLL M. 3087; BISI-1871.
Order from OTS or SLA $1.60 61-27555

Trans. of Stal' (USSR) 1955 [v. 15] no. 8, p. 692-698. Also available from BISI f4 5s as BISI-1871 [1961].

Portions of this report will not reproduce well.

DESCRIPTORS: *Iron, *Ores, Reduction, *Blast furnaces, Design

Karnaukhov, M.M.
PRESENT-DAY WROUGHT-IRON PRODUCTION PRACTICE. 8 p. 1 ref. MTWL: 675
Order from OTS or ETC $1.55 61-17187

Trans. of Metallurg (USSR) 1940, no.2, p. 16-20.

DESCRIPTORS: *Wrought iron, *Metallurgy, Steel, Slags.

Kolorz, A.
ULTRASONIC TESTING OF STEEL CASTINGS. Dec 61, 4400 words.
Order from HB $12.50 HB-5175

Trans. of Giesserei (West Germany) 1961, v. 48, no. 5, p. 109-114.

DESCRIPTORS: *Steel castings, Castings, Test methods, *Ultrasonic radiation

Köster, W. and others.
THE DAMPING BEHAVIOUR OF STRAINED IRON. Dec 61.
Order from BISI £7 15s BISI-2444

Trans. of Arch[iv für das] Eisenhüt[tenwesen] (West Germany) 1954, v. 25, Nov/Dec, p. 569-578.

DESCRIPTORS: *Iron, *Steel, *Deformation, *Damping.

Krepysheva, L. B.
EFFECT OF COMPOSITION OF ALLOY STEELS UPON THE FORMATION OF FLAKES. Nov 61, 3900 words.
Order from HB $9.80 HB-5255

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1959, no. 3, p. 93-100.

DESCRIPTORS: *Steel, Alloys, *Scale, Chromium, Nickel, Molybdenum, Nitrogen, Tungsten, *Hydrogen, *Fracture (Mechanics).

Kuznetsov, A. F., Kharitonov, A. S., and Molonov, G. D.
EFFECT OF DEOXIDIZING AND POURING PRACTICES ON THE QUALITY OF (CARBON) TUBE STEEL. Dec 61, 1800 words.
Order from HB $4.90 HB-5367

Trans. of Izvest[iya] V[ysshih] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1961, no. 8, p. 43-47.

DESCRIPTORS: Steel tubing, *Steel, *Deoxidation

Loshchilov, S. and Fastovskiĭ, B.
THE UTILISATION OF BESSEMER STEEL FOR SOME SECTIONS AND OTHER PRODUCTS. 16 p. MTWL: 672
Order from OTS or ETC $1.85 61-17184

Trans. of Stal' (USSR) 1940, no.2, p. 17-22.

DESCRIPTORS: *Steel, Cast steel, Metallurgy, *Rolling mills.

Lozinskiĭ, M.G.
CONTINUOUS SURFACE HARDENING OF STEEL BY THE HIGH-FREQUENCY INDUCTION METHOD. 17 p. 9 refs. MTWL: 670.
Order from OTS or ETC $1.85 61-17202

Trans. of Vestnik Metallopromyshlennosti (USSR) 1940, no. 3, p. 50-60.

DESCRIPTORS: *Steel, Hardening, Induction heating, *High-frequency heating.

Lüth, A.
SCALE FORMATION ON THIN HOT-ROLLED SHEET STEEL. Dec 61.
Order from BISI £4 15s BISI-2419

Trans. of Arch[iv für das] Eisenhütt[enwesen] (West Germany) 1959, v. 30, Feb., p. 71-78.

DESCRIPTORS: *Sheets, *Steel, *Scale, Cerium compounds, Sulfates.

Maehara, S. and others.
PRODUCTION OF SHIP PLATE STEEL IN THE BASIC OXYGEN LD FURNACE. Dec 61, 500 words.
Order from HB $2.50 HB-5229

Trans. of Tetsu to Hagane (Japan) 1961, v. 47, no. 3, p. 348-350.

DESCRIPTORS: *Ship plates, *Steel, Production

Marianeschi, E.
AN APPARATUS FOR THE INSPECTION AND STUDY OF FLAKE FORMATION. Dec 61.
Order from BISI £2 BISI-2514

Trans. of mono. (paper) presented at the Conference on Heavy Forging, Terni, Sep 61.

DESCRIPTORS: Scale, Corrosion inhibition, *Electro-acoustic transducers, *Castings, *Fracture (Mechanics).

Nagami, Katumo, Koya, Minoru, and Nagano, Yukio.
ON THE DISTRIBUTION OF OXYGEN IN MOLTEN STEEL DURING REFINING. [1961] 8p.
Order from SLA $1.10 61-18384

Partial trans. (synopsis, table and figs) from Sumitomo Metals (Japan) 1958, v. 10, no. 1 [p. 1-4].

DESCRIPTORS: Distribution, *Oxygen, *Melting, *Steel, Refineries, Open hearth furnaces, Metallurgical analysis, Sampling, Reduction.

The oxygen distribution was examined by simultaneous sampling from each of three doors. The result shows that the oxygen content dissolved in molten steel is influenced by firing direction. At the intake side it reduces with the time after reversal. At the exhaust side it increases, but at the middle door time after reversal has no appreciable effect and the content is nearest to the mean value of the three doors. Thus it is reasonable to sample the molten steel at the middle door for dissolved oxygen, as is usually done. (Author)

Povolotskii, D. Ya. and Kossovskii, L. D.
EFFECT OF WELDED-UP FLAKES ON THE MECHANICAL PROPERTIES OF STEEL. Nov 61, 2100 words.
Order from HB $5.85 HB-5266

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1961, no. 6, p. 129-133.

DESCRIPTORS: *Steel, Mechanical properties, Heat treatment, *Scale, *Welds, *Fracture (Mechanics).

Przheblevskiĭ, K.A.
PRODUCTION OF HIGH-SPEED STEEL WIRE AT THE SERP I MOLOT WORKS. 8 p. MTWL: 676.
Order from OTS or ETC $1.55 61-17188

Trans. of Katshestvennaya Stal' (USSR), 1937, no. 12, p. 45-47.

DESCRIPTORS: *Steel wire, Rolling mills, Heat treatment, Pickling, *Tool steel.

Samarin, A., Yaskevich, A., and Paisov, I.
THE INFLUENCE OF NITROGEN ON THE PROPERTIES OF RUSTLESS STEELS, tr. by G.H. Davison. 11 p. MTWL: 669.
Order from OTS or ETC $1.55 61-17201

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1943, no. 5/6, p. 71-77.

DESCRIPTORS: *Stainless steel, Nitrogen, Mechanical properties.

Tovpenets, E. S. and Yudovich, S. Z.
FORMATION OF FLAKES IN STEEL WHILE BEING INSPECTED FOR FLAKES. Nov. 61, 1350 words.
Order from HB $3.90 HB-5267

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1961, no. 6, p. 134-138.

DESCRIPTORS: *Steel, Scale, *Corrosion inhibition, Austenite, Heat treatment, Annealing, *Fracture (Mechanics) Martensite

Vydra, F. and Pribil, R.
INDIRECT CERIMETRIC DETERMINATION OF COBALT IN STEELS. [1961] 4p.
Order from ATS $6.75 ATS-04N57C

Trans. of Hutnicke Listy (Czechoslovakia) 1960, v. 15, no. 6, p. 476-477.

DESCRIPTORS: *Steel, *Cobalt, Determination.

Wahlster, M.
STUDIES OF THE REDUCIBILITY OF ORE PELLETS, PT. 1. Nov. 61, 4100 words.
Order from HB $9.80 HB-5127

Trans. of Technische Mitteilungen Krupp (West Germany) 1961, v. 19 [no. 1] p. 1-7.

DESCRIPTORS: Pellets, *Ores, *Iron *Metal powders, Reduction.

Warrol, Hans and Wahlberg, Bo.
RADIOLOGICAL THICKNESS GAUGING DURING HOT ROLLING. [1961] [22]p. 27 refs.
Order from SLA $2.60 61-18359

Trans. of Jernkontoret [Stockholm]. Ann[aler] (Sweden) 1956, v. 140, no. 12, p. 909-929.

DESCRIPTORS: *Rolling mills, Thickness, Measurement, *Gages, *Radiological physics, *Steel, Production, Machining, Grinding, Precision finishing, Control.

Views on the experience gained with continuous thickness gauging during hot-rolling of strip are summarized.

Willmer, Theo-Kurt, compiler.
THE MAIN SUBSIDIARY ELEMENTS IN PIG IRON AND THEIR CHEMICAL DETERMINATION. [1959] [20]p. 20 refs.
Order from SLA $1.60 61-20603

Trans. of Archiv für das Eisenhüttenwesen (West Germany) 1958, v. 29, no. 3, p. 159-164.
Another trans. is available from BISI £ 3 5s as BISI-1226 [1959].

DESCRIPTORS: *Cast iron, Chemical analysis, Impurities, Determination, Industrial reserach

The methods of determining the content, ranging from some thousandths to some tenths percent, of subsidiary elements in pig iron, have been tried out by the Chemical Section of the VDE. From the very considerable number of methods coming under consideration those were selected which, as a result of the combined investigations of nine laboratories, were found to be both the most reliable and the most simple of execution. The improved instructions for dealing with aluminium, cobalt, chromium, copper, molybdenum, nickel, titanium, vanadium, arsenic, antimony, tin and lead are given in this report. (Author)

Yoshii, Shuyu and Shimanaka, Kazutoshi.
ON THE DESULPHURISATION OF MOLTEN STEEL BY CaC_2 AND CaO. [1961] 2p.
Order from SLA $1.10 61-18883

Trans. of Tetsu to Hagane (Japan) 1956 [v. 42] p. c64-c65.

DESCRIPTORS: *Desulfurization, Melting, *Steel, *Calcium compounds, *Carbides, Stirrers, Deoxidation, Sulfur, *Oxides, Chemical analysis, Slags, Chemical reactions.

Carbide power to the extent of 2% by weight of the molten steel was sprinkled over a thoroughly deoxidised molten low-carbon steel the rate of desulphurization was very rapid and the sulphur content declined to less than 0.03% within a few minutes. This was quicker than the calcium oxide method by 2-3 minutes. Desulphurization by this method is so rapid that initial sulphur content has almost no effect; the desulphurization limit in 5 to 8 minutes was below 0.03%, whether the initial sulphur content was 0.3% or 0.09%. Since carbide has a high melting point and does not form a slag of good fluidity, it is presumed that an interface reaction is involved. Where no stirring was used, the results were found to be inferior to the above

Light Metals

Lysak, L. I. and Sogrishin, Yu. P.
EFFECT OF METHOD OF PLASTIC DEFORMATION ON INTERNAL STRESSES IN METAL. Oct 61.
Order from BISI £2 10s BISI-2371

Trans. of Akad[emiya Nauk] URSR, Kiev. Inst[ytut] Metallofiz[yky]. Sbornik Nauch[nykh] Rab[ot] 1959, v. 9, p. 22-26.

DESCRIPTORS: *Metals, *Deformation, Internal friction, *Aluminum alloys, *Stresses, Vibration, Alloys.

Richter, H.
CHEMICAL BRIGHTENING OF ALUMINIUM. 1961, 2000 words.
Order from TTIS $18.00 TTIS FA 79

Trans. of Galvano (France) 1961, v. 30, July, p. 481-484.

DESCRIPTORS: *Aluminum, Electrolytic polishing.

Structural Metallurgy and Corrosion

COMPOSITION FOR PROTECTING FERROUS METALS AGAINST CORROSION. 1961, 250 words.
Order from TTIS $0.50 TTIS-1081

Trans. of French patent 1,264,029, by G. P. L. Prout-Diaz, appl. 6 May 60, pub 13 Oct 61.

DESCRIPTORS: Iron alloys, *Corrosion inhibition, *Iron

Akimov, G.V. and Golubev, A.I.
HET ONDERZOEK VAN CORROSIEPROCESSEN AAN MODELLEN VAN EEN LOCAALELEMENT. I. HET VELD IN EEN ELECTROLYT BOVEN KORTGESLOTEN, IN ÉÉN VLAK GELEGEN MODELLEN (Corrosion processes using a model of local galvanic couples. I. Field of the electrolyte above short circuited models situated in one plane). 9 p. 7 refs. MTWL: 576. (Text in Dutch).
Order from OTS or ETC $1.55 61-17108/1

Trans. of Zhurnal Fizicheskoĭ Khimii (USSR) 1946, v. 20, p. 303-308

DESCRIPTORS: *Corrosion, *Electrolytic Cells.

Akimov, G.V.
THEORIE EN METHODEN VAN ONDERZOEK VAN DE CORROSIE VAN METALEN (Theory and research methods of metallic corrosion). 44 p. MTWL: 605. (Text in Dutch).
Order from OTS or ETC $2.71 61-17245

Trans. of mono. Teoriya i Metody Issledovaniya Korroziĭ Metallov, Mockva 1945.

DESCRIPTORS: Metals, *Corrosion, *Electric potentials, Electrodes, Polarization, Theory.

Akimov, G.V., Stoklitskiĭ, L.J. and others.
EEN TOESTEL VOOR MICRO-ELECTROCHEMISCHE CORROSIE-ONDERZOEKINGEN (Apparatus for micro-electrochemical corrosion studies). 14p. 4 refs. MTWL: 764. (Text in Dutch).
Order from OTS or ETC $ 1.85 61-17257

Trans. of Akademiya Nauk SSSR. Institut Fizicheskoĭ Khimii. Trudy, 1951, vol. 3, p. 61-68.

DESCRIPTORS: *Corrosion, Electrochemistry, Microanalysis, *Microscopes.

Akulov, N.S.
MAGNETIC EXAMINATION OF METALS. 9 p. MTWL: 671.
Order from OTS or ETC $1.55 61-17183

Trans. of Vestnik Metallopromyshlennosti (USSR), 1940, no. 4-5, p. 123-129.

DESCRIPTORS: *Non-destructive testing, *Metals, Test methods, Magnetic effects, Quality control.

Bromberg, A.V., Luk'yanovich, V.M., and others.
ELECTRON MICROSCOPIC EXAMINATION OF A FINE GRAIN STRUCTURE BY ITS DEVELOPMENT. 8 p. 2 refs. MTWL: 560.
Order from OTS or ETC $1.55 61-17132

Trans. of Akademiya Nauk SSSR. Doklady, 1951, v. 79, no.5, p. 827-830.

DESCRIPTORS: *Electron microscopy, *Grains, Solids, Surfaces, Silver.

Gerischer, H.
ELECTROCHEMICAL PHENOMENA IN STRESS CORROSION. [1961] 13p.
Order from ATS $19.60 ATS-05N57G

Trans. of Werkstoffe [und] Korrosion (West Germany) 1957, v. 8, no. 7, p. 394-401

DESCRIPTORS: *Corrosion, Electrochemistry, Stresses.

Golubev, A.I. and Akimov, G.V.
HET ONDERZOEK VAN CORROSIEPROCESSEN AAN MODELLEN VAN EEN LOCAALELEMENT. II. DE STROOMVERDELING EN DE WEERSTANDSVERANDERING OP KORTGESLOTEN MODELLEN (Corrosion processes using a model of local elements. II. Current distribution and change of resistance in short-circuited models). 9 p. 3 refs. MTWL: 576. (Text in Dutch).
Order from OTS or ETC $1.55 61-17108/2

Trans. of Zhurnal Fizicheskoĭ Khimii (USSR) 1946, v. 20, p. 309-314.

DESCRIPTORS: *Corrosion, *Electrolytic Cells.

Karpenko, G.V.
BIJDRAGE TOT HET PROBLEEM DER VORMING VAN MICROSCHEURTJES DOOR VERMOEIDHEID (Formation of fatigue microcracks). 8 p. 6 refs. MTWL: 526. (Text in Dutch).
Order from OTS or ETC $1.55 61-17158

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 74, p. 95-98.

DESCRIPTORS: *Solids, *Surface properties, Energy, *Metallic crystals. Deformation.

Mikhalev, P.F. and Volfson, S.I.
CORROSIE DOOR ZWAVELWATERSTOF BIJ HOGE TEMPERATUUR (Hydrogen Sulfide corrosion at high temperatures). 13 p. MTWL: 445. (Text in Dutch).
Order from OTS or ETC $1.85 61-17052

Trans. of Neftyanoe Khozyaĭstvo (USSR) 1938, no. 7, p. 26-30.

DESCRIPTORS: *Hydrogen compounds, *Sulfides, *Corrosion, High temperature research.

Nowotny, H., Piegger, E. and others.
THE TERNARY SYSTEM: CHROMIUM-SILICON-BORON (Das Dreistoffsystem: Chrom-Silizium-Bor). [1961] [12]p. (foregin text included) 23 refs.
Order from SLA $1.60 61-20838

Trans. of Monatshefte für Chemie (Austria) 1958, v. 89, no. 4/5, Sonderabdruck, p. 611-617.

DESCRIPTORS: *Chromium, *Silicon, *Boron, Alloys, Phase studies, Crystal structure.

The structure of the ternary system chromium-silicon-boron is determined for a section of 1300°C of hot pressed samples. In addition to the well known binary silicide and boronide-phases (their existence is confirmed) appears the ternary phase D 8_8 as the dominating crystal with the approximate composition Cr_5Si_3B. Cr_5B_3(T 2) absorp considerable amounts of Cr_5Si_3. (Author)

Rozenfel'd, I. L.
EEN OPTISCHE METHODE TER BEPALING VAN DE CORROSIEDIEPTE (Optical method for determining the depth of corrosion pits). 13p. 2 refs. MTWL: 766. (Text in Dutch).
Order from OTS or ETC $1.85 61-17258

Trans. of Akademiya Nauk SSSR. Institut Fizicheskoĭ Khimii. Trudy, 1951, no. 3, p. 50-56.

DESCRIPTORS: *Corrosion, * Microanalysis, Microscopes.

Spirin, A. A.
ALL-UNION INTER-VUZ SCIENTIFIC CONFERENCE ON PROBLEMS OF COMBATTING CORROSION. 23 Oct 61 [6]p. JPRS: 10790.
Order from OTS or SLA $1.10 62-13236

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Neft'i Gaz (USSR) 1961 [4. 4] no. 2, p. 94 and 106.

DESCRIPTORS: *Corrosion inhibition, Conferences,

Vasil'ev, V.E. and Vashchenko, K.I.
THE METALLURGY OF ACID-RESISTING IRON-SILICON ALLOYS. 23 p. 30 refs. MTWL-673.
Order from OTS or ETC $1.90 61-17185

Trans. of Teoriya i Praktika Metallurgii (USSR) 1938, no. 4, p. 20-32.

DESCRIPTORS: *Iron alloys, *Silicon alloys, Corrosion-resistant alloys, Metallurgy, Acids.

NUCLEAR PHYSICS AND NUCLEAR CHEMISTRY

CONFERENCE ON NUCLEAR REACTIONS INDUCED BY MULTICHARGE IONS [HELD AT DUBNA, 11-13 MAR 58]: REPORTS, tr. by Lydia Venters.
Aug 61, 133p. 13 refs.
Order from OTS $2.50 AEC-tr-4445

Trans. of mono. Materialy Konferentsii po Yadernym Reaktsiyam s Mnogozaryadnymi Ionami, Dubna, 1958.

DESCRIPTORS: *Nuclear reactions, *Ions, Nuclei, Neutrons, Protons, Particles, *Mass spectroscopy, Range, Energy, *Nuclear isomers, *Magnetic fields, Configuration, Cyclotrons, Radioactive isotopes, Conferences, Accelerators

Contents:
Introduction
Introductory speech of Prof. V. Yu. Votruba
Basic problems of the physics of multicharge ions, by G. N. Flerov
Investigation of the properties of highly excited compound nuclei, by A. S. Karamyan
Discussion of the reports of G. N. Flerov and A. S. Karamyan
In obtaining the 102nd element, by D. M. Parfanovich
Investigation of excited nuclear states by the multicharge ion method, by V. S. Shpinel'
Possibility of existing proton-radioactive nuclei, by V. A. Karnaukhov
Investigation of the fractional nuclear interaction, by V. V. Volkov
Use of the mass spectroscopic method for investigating the reactions induced by heavy particles, by N. I. Tarantin
Range-energy relationship for ions in different media, by Yu. Ts. Oganesyan
Formation of new isomers in nuclei exposed to multicharge ions, by L. I. Rusinov
Accelerator of multicharge ions, by K. L. Plyusnin
Configuration of the magnetic field of multicharge ion accelerator and calculation of the beam output, by I. M. Mator
Cyclotron multicharge ion source, by B. N. Makov
Operation of a multicharge ion source in the cyclotron of the Institute of Atomic Energy, by A. S. Pasyuk
Specific features of radiochemical investigations of nuclear interaction products using multicharge ions, by Yu. B. Gerlit
Several chemical and radiochemical problems in obtaining and investigating new elements, by G. N. Flerov
Resolution project
Closing speech, by G. N. Flerov.

Bondarenko, A. V., Voznesenskii, Yu. A. and others.
AN INVESTIGATION OF THE SYSTEM OF AUTOMATICALLY RELATING THE POWER LEVEL OF A NUCLEAR REACTOR. 1 Nov 61 [21]p. 2 refs.
JPRS: 10815.
Order from OTS or SLA $2.60 62-13367

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1961, v. 4, no. 8, p. 57-62.

DESCRIPTORS: *Reactor safety systems, Automatic, Control systems, *Nuclear power plants.

A concrete example of the investigation of transient processes is given for one of the variants of a projected nuclear reactor, having an automatic power level regulation system. (Author)

PERSONNEL SUPPLIES AND PERSONAL EQUIPMENT

CONVERTIBLE ARMCHAIR. [1961] 4p.
Order from ATS $8.00 ATS-90N57F

Trans. of Belgian patent 536,061, by Etablissements Jean Pankert, Eupen, appl. filed 26 Feb 55, granted 15 Mar 55, pub. 2 Jan 59.

DESCRIPTORS: *Furniture, *Seats.

PHYSICS

Gintsburg, M. A.
SURFACE WAVES ON THE BOUNDARY OF A PLASMA IN A MAGNETIC FIELD. July 61 [15]p. 5 refs. AFCRL 534; MDF G-207; AD-262 521.
Order from OTS or SLA $1.60 62-13841

Trans. of N[auchno]-I[ssledovatel'skii I[nstitut] Z[emnogo] M[agnetizma, Ionosf[ery] i Rasprost]-raneniya] Radiovoln. Trudy (USSR) 1960, v. 17(27) p. 208-215.

DESCRIPTORS: *Plasma physics, Surface properties, *Magnetic fields, *Ionospheric propagation, Tensor analysis, Wave transmission, Ferrites, USSR, *Radio waves, Propagation, Ferromagnetic materials, Magnetohydrodynamics, Terrestrial magnetism, Ionosphere, Electronic switches, Ionosphere models, Mathematical analysis, Differential equations.
Surface waves in a gyrotropic medium on the boundaries of a plasma in a magnetic field are analyzed. There is here kept in mind that the phenomena considered play a certain part in radiowave propagation in the ionosphere. (Author)

Paul, W. and Raether, M.
THE ELECTRIC MASS FILTER. [1961] 9p. (10 figs. omitted).
Order from SLA $1.10 62-10202

Trans. of German language article from an unidentified source, 1954 (?).

DESCRIPTORS: *Mass spectrometers, Design, *Isotope separation, Electric filters, Intensity, Ionic current, High frequency, Voltage, Velocity, Theory, Stability, Measurement, Errors.

(See also 59-10757)

Rohrbach, C. and Andreae, G.
A NOVEL FLAT PRECISION LOAD CELL OF SIMPLE DESIGN WITH STRAIN GAUGES. Jan 62.
Order from BISI £3 15s BISI-2493

Trans. of Materialprüfung (West Germany) 1961, v. 3, 20 Aug, p. 300-304.

DESCRIPTORS: *Strain gages, Design, Gages.

Electricity and Magnetism

Akulov, N.S. and Kakushadze, T.I.
DE MAGNETISCHE MOMENTEN VAN Fe, Co EN Ni-ATOMEN (Atomic moments of iron, cobalt and nickel) 7 p. 6 refs. MTWL: 565. (Text in Dutch).
Order from OTS or ETC $1.55 61-17117

Trans. of Akademiya Nauk SSSR. Doklady, 1951, v. 77, no. 4, p. 593-596.

DESCRIPTORS: *Iron, *Chromium, *Nickel, Atomic Structure, *Magnetic Moments.

Akulov, N.S., Alizade, Z.J., and Belov, K.P.
MAGNETOSTRICTIE VAN Fe-Pt LEGERINGEN (Magnetostriction of Fe-Pt alloys), tr. by J.H. van Santen. 9 p. 4 refs. MTWL: 435. (Text in Dutch).
Order from OTS or ETC $1.55 61-17064

Trans. of Akademiya Nauk SSSR. Doklady, 1949, v. 65, p. 815-818.

DESCRIPTORS: *Magnetostriction, *Iron alloys, *Platinum alloys.

Kondorskiĭ, E.
THE THEORY OF COERCIVITY AND THE MAGNETICSUSCEPTIBILITY OF FERRO-MAGNETIC POWDERS (DEPENDENCE ON PACKING DENSITY). 6 p. 6 refs. MTWL: 561
Order from OTS or ETC $1.55 61-17113

Trans. of Akademiya Nauk SSSR. Doklady, 1951, v. 80, no. 2, p. 197-200.

DESCRIPTORS: *Ferromagnetic Materials, Powder Metallurgy, Magnetic Susceptibility, Theory.

Margolin, S.D.
DE VERDELING OVER DE DIKTE VAN DE MAGNETISCHE INDUCTIE VAN EEN FERROMAGNETISCHE RING, WELKE GEPLAATST IS IN EEN ELECTROMAGNETISCH WISSELVELD (Distribution over the thickness of the magnetic induction of a ferromagnetic ring, placed in a electromagnetic alternating field). tr. by J.H. van Santen. 6 p. 1 ref. MTWL: 429 (Text in Dutch).
Order from OTS or ETC $1.55 61-17057

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 72, no. 3, p. 493-495.

DESCRIPTORS: *Ferromagnetic materials, *Electromagnetism, *Electromagnetic fields, Alternating Current.

Samoĭlovich, A.G. and Kon'kof, W.L.
DE THEORIE DER GALVANOMAGNETISCHE VERSCHIJNSELEN IN FERROMAGNETICA (Theory of galvanomagnetic phenomena in ferromagnetics), tr. by J.H. van Santen. 8 p. 3 refs. MTWL: 432. (Text in Dutch).
Order from OTS or ETC $1.55 61-17061

Trans. of Zhurnal Eksperimental'noĭ i Teoreticheskoĭ Fiziki (USSR) 1950, v. 20, no. 9, p. 783-786.

DESCRIPTORS: *Ferromagnetism, Electrons, Theory.

Shaposhnikov, I.G.
DE COMPLEXE MAGNETISCHE SUSCEPTIBILITEIT VAN EEN PARAMAGNETISCHE STOF BIJ HOGE FREQUENTIES (Complex magnetic susceptibility of a paramagnetic substance at high frequencies) tr. by J.H. van Santen. 8 p. 3 refs. MTWL: 433 (Text in Dutch).
Order from OTS or ETC $1.55 61-17062

Trans. of Zhurnal Ekspirimental'noĭ i Teoreticheskoĭ Fiziki (USSR) 1949, v.19, p.557-580.

DESCRIPTORS: *Magnetism, *Magnetic susceptibility, Theory, Thermodynamics.

Shur, J.S.
THE HEAT TREATMENT IN A MAGNETIC FIELD OF PERMANENT MAGNET ALLOYS OF HIGH COERCIVE FORCE. 7 p. 6 refs. MTWL: 674.
Order from OTS or ETC $1.55 61-17186

Trans. of Zhurnal Tekhnicheskoĭ Fiziki (USSR), 1940, v. 10, no.9, p. 757-760.

DESCRIPTORS: *Magnetic alloys, Magnetic field, *Heat treatment, Magnetic properties, Magnetic materials.

Volkov, D. I.
ON THE HALL EFFECT IN FERROMAGNETS. [1961] 4p. 7 refs. MDF V-155.
Order from OTS or SLA $1.10 62-15613

Trans. of Moscow U. Vestnik. Ser[iya] 3: Fiz[ika] Astr[onomiya] (USSR) 1960 [v. 15] no. 4, p. 18-20.

DESCRIPTORS: *Ferromagnetic materials, Magnetic properties, Temperature, Magnets, *Hall effect

The temperature dependence of the Hall effect in ferromagnets is analyzed. A relation is established between the Hall constant, independent of temperature, and the magnitude of the paramagnetic susceptibility of the conduction electrons. (Author)

Yakovlev, E. N.
FERROMAGNETIC RESONANCE IN A UNIAXIAL FERRITE WITH TWO SUBLATTICES. [1959] 6p. 4 refs. MDF I-121.
Order from OTS or SLA $1.10 62-13694

Trans. of *Fiz[ika] Met[allov] i Metallov[edenie] (USSR) 1959, v. 8, no. 2, p. 165-169.

DESCRIPTORS: *Ferrites, Ferromagnetism, Resonance, Magnetic moments, Magnetic fields, Ferromagnetic materials, Radiofrequency, Frequency

Resonance frequencies are calculated for two orientations of the constant magnetic field: along the easy magnetization axis and perpendicular to this axis. (Author)

Electronics

Pyatnitskii, A. I.
ON THE DISTRIBUTION OF ELECTRON ENERGIES FROM ANTIMONY-CESIUM CATHODES tr. by Esther Goldberg. [1961] 25p. 13 refs.
Order from OTS or SLA $2.60 UCRL Trans-470 (L)

Trans. of #Radiotekhnika i Elektronika (USSR) 1957, v. 2, no. 6, p. 714-726.

DESCRIPTORS: *Cathodes, *Secondary emission, *Antimony, *Cesium, Capacitors, Silver, Electrical properties, Electrons, Energy, Measurement, Electronic equipment, Electronics.

By using interchangeable cathodes in a spherical condenser, measurements were made of photocurrent and secondary emissions from an Sb-Cs cathode and an Ag-Cs layer. The results of the measurements showed an essential difference in the voltampere path properties of the photocurrent for the Sb-Cs cathode and Ag-Cs layer, which confirmed the presence in the Sb-Cs cathode of secondary electrons with insufficient energy and indicated the great dependence of the number of these electrons on the quantity of cesium in the cathode. On the basis of the results of these measurements, the energy scheme of an Sb-Cs cathode is considered. (Author)

Roubínek, F.
THE EFFECT OF NITROGEN ON EXOELECTRONIC EMISSION OF GERMANIUM (Über den Enifluss von Stickstoff auf die Exoelektronenemission von Germanium). [1961] 7p. 5 refs.
Order from SLA $1.10 61-20547

Trans. of [Chekhoslovatskii Fizicheskii Zhurnal] 1960, v. 10, p. 949-953.

DESCRIPTORS: *Nitrogen, Effectiveness, Atoms, Surfaces, X-rays, Excitation, *Germanium, *Secondary emission, Ion bombardment, Photoengraving, Electronics, Lattices, Measurement, Direct current, Gas discharges, Argon, Binders.

The effect of bombardment with nitrogen ions before excitation was investigated, and it is shown that the nitrogen atoms play a large part in the genesis of the emission maximum at 150°C. (Author)

Seeger, Karlheinz.
DELAYED ELECTRON EMISSION OF GERMANIUM (Verzögerte Elektrononemission von Germanium). [1961] 7p. 14 refs.
Order from SLA $1.10 61-20533

Trans. of Acta Physica Austriaca, 1957, v. 10, no. 4, p. 448-452.

DESCRIPTORS: *Germanium, Electron bombardment, *Secondary emission, Electronics, Surface area, Temperature, Liquid air, Vacuum apparatus, Counting methods, Electron multipliers, Semiconductors, Heating, Cooling, Ultraviolet radiation, Excitation, Electrons, Exposure

Seidl, R.
ON THE PROBLEM OF EXO-ELECTRON EMISSION (Zum problem der Exoelektronenemission). [1961] 27p. 42 refs.
Order from SLA $2.60 61-20549

Trans. of [Chekhoslovatskii Fizicheskii Zhurnal] 1960, v. 10, p. 931-948.

DESCRIPTORS: *Secondary emission, Electronics, X-rays, Sodium compounds, Chlorides, Potassium compounds, *Alkali metal compounds, *Halides, Luminescence, Electrical conductance, X-ray absorption analysis, X-ray spectrum, Measurement, Solids, Surface properties, Photoengraving, Excitation, Temperature, Films, Ionization.

Some new experiments on exo-electron emission from alkali-metal halides have been performed, and the chief problems of exo-electron emission are discussed on the basis of the results and other experimental data presently available. (Author)

Molecular Physics and Spectroscopy

Glebovskaya, E.A. and Vol'kenshtein, M.V.
SPECTRA OF PORPHYRINS IN OILS AND BITUMES. 18 p. 21 refs. MTWL: 638.
Order from OTS or ETC $1.85 61-17210

Trans. of Zhurnal Obshchei Khimii (USSR) 1948, v. 18, no. 8, p. 1440-1451.

DESCRIPTORS: *Porphyrins, Mineral oils, Spectrographic analysis.

Liebl, H. and Wachsmuth, H.
A MASS SPECTROGRAPH WITH A DEFLECTING CONDENSER HAVING ONE SIDE GROUNDED. [1961] [7]p. 10 refs.
Order from SLA $1.10 62-10059

Trans. of Z[eitschrift für] Naturforsch[un]g (West Germany) 1959, v. 14a [no. 9] p. 846-847.

DESCRIPTORS: *Mass spectrometers, *Capacitors, Design, Voltage, Deflection

Shpol'skii, E. V. and Girdzhiyauskaite, E. A.
LUMINESCENCE AND ABSORPTION OF PYRENE AND 3,4-BENZOPYRENE IN FROZEN SOLUTIONS OF NORMAL PARAFFINS. [1961] 24p. 11 refs.
Order from SLA $2.60 61-20484

Trans. of Optika i Spektroskopiya (USSR) 1958, v. 4 [no. 5] p. 620-630.

DESCRIPTORS: *Hydrocarbons, Benzoyl radicals, Solidified gases, Luminescence, Absorption, Spectrographic analysis, Optics, Fluorescence.

The luminescence spectra and the long-wave portion of the absorption spectra of pyrene and 3,4-benzopyrene in solutions of normal paraffinic hydrocarbons from n-pentane to n-decane have been studied at the temperature of liquid nitrogen. It was shown that under these conditions the spectra exhibit a linear fine structure sharply dependent on the solvent. The oscillatory analysis of the spectra that was conducted shows that the general character of the spectra is retained in all solvents; consequently, they are characteristic for the emitting molecules. The long-wave part of the absorption spectrum exhibits the same structure as the fluorescence spectrum in the same solvent. Some peculiarities of the long-wave part of the absorption spectrum are pointed out which distinguish it essentially from the main absorption spectrum lying in the shorter part. (Author)

Tatevskiĭ, V.M.
ENKELE VRAAGSTUKKEN BETREFFENDE DE CHEMISCHE STRUCTUURTHEORIE VAN A.M. BUTLEROV. II. DE CHEMISCHE STRUCTUUR VAN KOOLWATERSTOFFEN EN DE WETMATIGHEID IN HUN VORMINGSENERGIEËN (The theory of chemical structure of A.M. Butlerov. 2. Chemical structure of hydrocarbons and the law of energies of formation). 23 p. 17 refs. MTWL: 554. (Text in Dutch).
Order from OTS or ETC $1.91 61-17126

Trans. of Zhurnal Fizicheskoĭ Khimii (USSR) 1951, v. 25, no. 2, p. 241-254.

DESCRIPTORS: *Hydrocarbons, Molecular structure, Energy, *Vibration, Valance, *Molecules, *Atoms.

Tsvetkov, V.N.
VERTAKKING EN GEOMETRISCHE AFMETINGEN VAN KETENMOLECULEN IN EEN OPLOSSING (Branching and geometric dimensions of chainmolecules in solution), tr. by F.X.J.Verhofstad. 7 p. 3 refs. MTWL: 558. (Text in Dutch).
Order from OTS or ETC $1.55 61-17130

Trans. of Akademiya Nauk SSSR. Doklady, 1951, v. 78, no. 6, p. 1123-1126.

DESCRIPTORS: *Molecular Structure, *Polymerization, *Molecules, Solution, Theory.

Zadumkin, S.N.
ABSORPTIESPECTRA VAN ENKELE NAPHTALINE-DERIVATEN IN HET NABIJE INFRAROOD (0,7-1,3μ) (Absorption spectra of some naphtalene derivatives in the near-infrared region (0,7-1,3 μ). 17 p. 4 refs. MTWL: 501. (Text in Dutch).
Order from OTS or ETC $1.55 61-17177

Trans. of Zhurnal Analiticheskoĭ Khimii (USSR), 1951, v. 6, no. 2, p. 88-95.

DESCRIPTORS: *Infrared spectroscopy. *Naphtalenes, Chemical bonds.

Optics

Karkhanina, N. Ya and Morgulis, N.D.
ENIGE OPTISCHE EIGENSCHAPPEN VAN CAESIUM-ANTIMOON FOTOKATHODEN (Some optical properties of antimony-cesium photo-cathodes) tr. by J.H. van Santen. 16 p. 8 refs. MTWL: 434 (Text in Dutch).
Order from OTS or ETC $1.85 61-17063

Trans. of Zhurnal Tekhnicheskoĭ Fiziki (USSR) 1950, v.20, no.3, p.345-352.

DESCRIPTORS: *Cesium alloys, *Antimony alloys, *Photoelectric effect, Optics, *Silver alloys, Cesium compound, Oxides.

Larche, K.
THE NEW XENON HIGH PRESSURE LAMPS. [1961] [10]p. (4 figs. 9 refs. omitted).
Order from SLA $1.10 62-10062

Trans. of Verein Deut[scher] Ingen[ieure]. Zeit[schrift] (West Germany) 1952, v. 94, p. 453-455.

DESCRIPTORS: *Xenon lamps, Design, Operation, Air cooled, Water, Cooling, Ignition, Pressure

Thouret, W.
NEW DESIGNS OF QUARTZ LAMPS: A SURVEY OF MORE RECENT DEVELOPMENTS IN MERCURY (RARE GAS) LAMPS [PT. 1] [1961] [21]p. (1 table, 12 illus. refs. omitted).
Order from SLA $2.60 62-10060

Trans. of [Licht-Technik (Germany) 1950, v. 2, no. 3, p. 73-79].
Other translations are available from ATS $21.95 as ATS-22N53G [1961] 14p. and SLA $1.60 as 61-20527 [1961] 14p.

DESCRIPTORS: Quartz, *Mercury lamps, Design.

Solid State Physics

Albrecht, Werner H.
MAGNETIC AND CRYSTALLOGRAPHIC STUDIES ON FERRIC OXIDE HYDRATES. [1961] 8p. (11 plates omitted) 10 refs.
Order from SLA $1.10 61-20984

Trans. of an unidentified article, n. p., 1929.

DESCRIPTORS: *Iron compounds, *Oxides, *Hydrates, Magnetic properties, Magnetic susceptibility, Crystal structure

Arinshtein, E. A.
ON THE STRUCTURE OF A CRYSTAL NEAR THE MELTING POINT [AND] ON THE STRUCTURE OF SOLID SOLUTIONS. [1960] 6p. 5 refs. MDF A-142.
Order from OTS or SLA $1.10 62-15608

Trans. of Izv[estiya] V[ysshikh] U[chebnykh] Z[avedenii]. Fizika (USSR) 1959, no. 4, p. 173-176.

DESCRIPTORS: *Solids, *Crystals, Melting, *Crystal structure, Analysis, Functional analysis, Series, Fourier analysis, Deformation

The assumption of a shallow crystalline state in which the transition layers between the separate crystallites play a substantial role appears to be most favorable thermodynamically and it corresponds to experimental results on the existence of finely-dispersed transition states. Such a state is formed not only because of the presence of a large number of crystallization centers but also is thermodynamically most favorable.

Bartenev, G.M.
THE ELASTICITY OF CRYSTALS NEAR THEIR MELTING POINTS. 8 p. 4 refs. MTWL: 611.
Order from OTS or ETC $1.55 61-17233

Trans. of Zhurnal Fizicheskoĭ Khimii (USSR) 1950, v. 24, no. 12, p. 1437-1441.

DESCRIPTORS: *Tin, Crystals, *Ice, Melting, Shear stresses, Elasticity.

Chatelain, Pierre.
DETERMINATION OF THE ORIENTATION FACTOR IN LIQUID MONOCRYSTALS OF THE NEMATIC TYPE FROM THE VALUES OF THE INDICES. [1961] 4p. 2 refs.
Order from SLA $1.10 61-18827

Trans. of Société Francaise de Minéralogie et de Cristallographie. Bulletin [1954] v. 77 [no. 4/6] p. 262-266.

DESCRIPTORS: *Single crystals, Determination, Liquids, Molecular structure, Temperature, Phase studies, Solids, Electromagnetic theory, Spheres, Polarization, *Solid state physics.

The theoretical interpretation of the values of the ordinary and extraordinary indices of liquid crystals show that, in spite of thermal agitation, two molecules which are separated by a distance which is less than a fraction of a wavelength are essentially paralled; it permits calculation of the values of the average orientation factor as a function of temperature; the variations of this factor from one limit to the other of the domain of existance of the liquid crystal phase are very small when compared with those produced by changes into the solid or liquid isotrope phases. (Author)

Danilov, V. I.
OVER HET ONTSTAAN VAN KRISTALLISATIE-CENTRA IN ONDERKOELDE VLOEISTOFFEN. V. OVER DE SPONTANE KRISTALLISATIE VAN VLOEISTOFFEN. (The formation of crystallisation centers in an undercooled liquid. V. The spontaneous crystallisation of liquids). 13 p. 10 refs. MTWL: 344. (Text in Dutch).
Order from OTS or ETC $1.85 61-17217

Trans. of Zhurnal Eksperimentalnoĭ i Teoreticheskoĭ Fiziki (USSR) 1949, v. 19, no. 3, p. 235-241.

DESCRIPTORS: *Crystallization, Liquids, *Organic compounds, Theory, Reaction Kinetics.

Haasen, Peter and King, Alwyn.
WORK-HARDENING AND STACKING FAULT ENERGY OF COPPER ALLOY CRYSTALS. [1961] [49]p. (19 figs. omitted) 46 refs.
Order from SLA $4.60 61-20206

Trans. of Z[eitschrift für] Metallk[un]de (West Germany) 1960, v. 51 [no. 12] p. 722-736.
Another trans. is available from ATS $36.60 as ATS-36N53G [1961] 25p.

DESCRIPTORS: *Copper alloys, *Crystals, *Single crystals, Gallium, Germanium, Temperature, Solids, Solutions, Phase studies, Stresses, Deformation, Dislocations.

The work-hardening of single crystals of copper-gallium and copper-germanium has been investigated as a function of concentration, temperature, and strain rate. The alloys have been chosen in the α-(fcc) solid solution approaching the hexagonal phase. As expected, the stacking fault energy, measured by the stress at the beginning of cross-slip, decreases rapidly with increasing concentration. Deformation twinning is observed up to 200°C in the concentrated alloys. Work-hardening parameters and slip-line observations are discussed in terms of dislocation theory. (Author)

Khanin, S.E.
EEN METHODE VOOR HET EXPERIMENTELE ONDERZOEK VAN DE AFSCHUIVING (Method for the experimental investigation of the shearing). 8 p. MTWL: 421. (Text in Dutch).
Order from OTS or ETC $1.55 61-17071

Trans. of Zavodskaya Laboratoriya (USSR) 1949, v. 15, no. 12, p. 1492-1494.

DESCRIPTORS: *Shear stresses, *Deformation.

Kolesnikov, G.N., Pavlov, V.A. and others.
PLASTISCHE DEFORMATIE EN BREUK VAN POLYKRISTALLIJNE METALEN BIJ REK. II. DE VORM VAN REKDIAGRAMMEN VAN ZUIVERE METALEN (Plastic deformation and destruction of poly crystalline metals in tension. II. The elongation curve of pure metals). 25 p. 6 refs. MTWL: 346. (Text in Dutch).
Order from OTS or ETC $1.95 61-17219

Trans. of Zhurnal Tekhnicheskoĭ Fiziki (USSR) 1949, v. 19, no. 1, p. 62-75.

DESCRIPTORS: *Metals, Crystals, *Deformation, Plasticity, *Decomposition, Stresses.

Kontorova, T. A.
ON A POSSIBLE CURRENT-CARRIER DISPERSION MECHANISM IN SEMICONDUCTORS [Ob Odnom Vozmozhnom Mekhanizme Rasseyaniya Nositelei Toka v Poluprovodnikakh]. [1961] 5p. 4 refs. MDF K-134.
Order from OTS or SLA $1.10 62-15612

Trans. of Zh[urnal] Tech[nicheskoi] Fiz[iki] (USSR) 1954, v. 24, no. 12, p. 2217-2220.

DESCRIPTORS: *Semiconductors, Lattices, Oscillation, Theory, *Electric currents

An explanation is proposed for the experimentally established rule that under definite conditions, the temperature-dependence of current-carrier mobility

has, for certain semiconductors, an unusual character, namely: the average value of the mobility, u varies according to the law $u = aT^{-5/2}$ or $u = bT^{-s3}$, where T is the temperature in degrees Kelvin; and a and b are constants.

Kotyukov, Yu. N. and Burnysheva, A. N.
INFLUENCE OF ANISOTROPIC ELASTIC STRESSES ON FERROMAGNETIC RESONANCE IN POLY-CRYSTALLINE FERRITES. [1961] 6p. 5 refs.
MDF K-247.
Order from OTS or SLA $1.10 62-15609

Trans. of Izvestiya V[ysshikh] U[chebnykh] Z[aved-enii]. Fizika (USSR) 1960, no. 4, p. 126-130.

DESCRIPTORS: *Ferrites, Resonance, Resonance absorption, Magnetostriction, Magnetic fields, Elasticity, Stresses

The influence of elastic stresses on ferromagnetic resonance absorption in polycrystalline ferrites was studied experimentally. A cylindrical sample was subjected to compression along its axis; a permanent magnetic field was applied in the same direction. A dependence of the magnitude of the resonance field on the magnitude of the applied stresses was established for samples which had passed through different heat treatments. A new method to measure magnetostriction is proposed on the basis of the effect investigated. (Author)

Kurdjumof, G.V. and Chandros, L.G.
HET THERMO-ELASTISCH EVENWICHT BIJ MARTENSIET-OVERGANGEN (Thermoelastic equilibrium in martensitic transformations), tr. by P. Schilperoord. 9 p. 6 refs. MTWL: 430. (Text in Dutch).
Order from OTS or ETC $1.55 61-17058

Trans. of Akademiya Nauk SSSR. Doklady, 1949, v. 66, no. 2, p. 211-214.

DESCRIPTORS: *Martensite, *Phase transitions, Chemical equilibrium, Thermal stresses. Elasticity.

Neuhaus, A.
METHODS AND RESULTS OF MODERN MONO-CRYSTAL GROWING. I. THEORETICAL FUNDAMENTALS. [1961] 29p. 49 refs.
Order from SLA $2.60 61-20964

Trans. of Chemie-Ingenieur-Technik (West Germany) 1956, v. 28, no. 3, p. 155-161.

DESCRIPTORS: *Single crystals, Growth, Solid state physics, Crystallization, Nuclei, Lattices, Particles, Diffusion

Nowotny, H., Kieffer, R. and others.
HIGH-MELTING CARBIDES, SILICIDES AND BORIDES (Hochschmelzende Karbide, Silizide und Boride). [1961] [22]p. (foreign text included) 16 refs.
Order from SLA $2.60 61-20844

Trans. of Acta Chim[ica] (Hungary) 1959, v. 18, p. 35-44.

DESCRIPTORS: *Carbides, *Silicides, *Borides, Heat tolerance, Melting, Crystallization, Crystal structure, Transition elements.

The present paper deals with the crystal chemistry of high melting carbides, silicides and borides. UC and mixtures of UC together with TiC, ZrC, VC, NbC, TaC, Cr_3C_2, Mo_2C, WC and ThC were prepared by the method of hot-pressing. It was found that UC forms a series of mixed crystals, respectively, with ZrC, NhC TaC and ThC. Between UC and respectively, TiC and VC a gap of miscibility occurs. Double carbides of uranium and, respectively, Cr, Mo and W were found to be of isotype structure. Lattice parameters are determined and a principle of structure is worked out. Ternary systems such as Me—Si—B (Me = 4a-, 5a- and 6a group) were investigated with respect to the phases T1 (W_5Si_3-type) T2 (Cr_5B_3-type) and $D8_8$ (Mn_5Si_3-type). It was shown that V_3B_2, Nb_3B_2 and Ta_3B_2 have U_3Si_2 structure. (Author)

Pitsch, W.
IRON NITRIDE INCLUSIONS IN FERRITE. II. CRYSTALLOGRAPHIC DEVELOPMENT (WITH DISCUSSION). Dec 61.
Order from BISI £3 10s BISI-2460

Trans. from Arch[iv für das] Eisenhütt[enwesen] (West Germany) 1961, v. 32, Aug.

DESCRIPTORS: *Iron compounds, *Nitrides, *Ferrites. Crystal structure, *Martensite, Transformations.

Rybalko, F. P. and Rybalko, B. F.
GROWING SINGLE-CRYSTAL FOILS OF PRESCRIBED CRYSTALLOGRAPHIC ORIENTATION. [1960] 3p. MDF R-123.
Order from OTS or SLA $1.10 62-15610

Trans. of Izvestiya V[yshhikh] U[chebnykh] Z[aved-enii]. Fizika (USSR) 1960, no. 5, p. 169-170.

DESCRIPTORS: *Zinc, Single crystals, Crystals, *Foils, Growth, Crystallization

Schön, M.
THE KINETICS OF THE PROCESSES OF PHOTOCONDUCTION AND PHOSPHORESCENCE. Apr 61, 90p. 83 refs.
Order from OTS $2.00 AEC-tr-4339

Trans. of Verband Deutscher Physikalischer Gesellschaften. Halbleiterausschuss. Halbleiterprobleme (West Germany) 1957, v. 4, Semi-conductor Problems, p. 282-364.

DESCRIPTORS: *Phosphors, Preparation, Photoconductivity, Phosphorescence, Luminescence.

A discussion is presented of the possibilities of the simple model of photoconducting crystal phosphors, in which the excitation of luminescence and photoconduction creates pairs of charge carriers of the opposite sign, and in which only one type of defect site is

assumed for each charge sign (viz., either one which is able to trap electrons or one which acts as a hole trap). General solutions are indicated for the stationary state, and simpler approximate solutions for typical cases. The capture cross section of the lattice defects are determined from a comparison with experiment. The stationary solutions for a phosphor with more than one activator are calculated. The decay at constant and at rising temperatures (thermoluminescence) is studied and an apparent influence of inhomogeneous excitation on the decay is discussed. The effect of additional longwavelength radiation (quenching and stimulation) is considered in general form. An appendix, written by W. Schottky, discusses the calculation of β from the decay curve, the computation of a_s from the intensity dependence of the emissivity at H-saturation, the recalculation of a_n from the w, J-variation at $n_t < H$, and other theories of phosphorescence.

Smirnov, B.G. and Shuppe, G.N.
ELECTRONIC WORK FUNCTION FOR SOME FACES OF A TUNGSTEN MONOCRYSTAL. 12 p. 12 refs. MTWL-639.
Order from OTS or ETC $1.85 61-17211

Trans. of Zhurnal Tekhnicheskoĭ Fiziki (USSR) 1952, v. 22, no. 6, p. 973-980.

DESCRIPTORS: *Tungsten, *Crystals, Electric fields.

Takemura, Tetsuo.
VISCOELASTICITY OF CRYSTALLINE HIGH MOLECULES. [1961] [14]p. 3 refs.
Order from SLA $1.60 61-20708

Trans. of Busseiron Kenkyu (Japan) 1956, no. 102, p. 95-105.

DESCRIPTORS: Viscosity, *Elasticity, Reduction, Ethylenes, Polymers, Molecular weight, Stresses, Relaxation time, Crystals, Crystallization, Solid state physics, Kinetic theory, *Molecules.

A process of reduction of crystallinity and draw-ratio of crystalline high molecules as parameters by a simple model was proposed, but suitable data clearly indicating the crystallinity and draw-ratio within a range of suitable temperatures could not be found and hence no sufficient validation could be made. This process was ascertained by the stress relaxation curve of polyethylene when the draw ratio was 1. Here it sufficed to substitute $\log_{10}E$ and $\log_{10}t$ by $\log_{10}E + \log_{10}T_o/T - \log_{10}\Lambda/1-\Lambda$ and $\log_{10}t - \varepsilon'(1/T - 1/T_o)/k + \log_{10}T/T_o$ respectively. The Λ here is (kinetic) crystallinity and ε' is a term corresponding to activation energy. The result was satisfactory, and a master curve was obtained. A master curve from the change of frequencies could be obtained.

Theoretical Physics

Andreev, V.D., Levina, L.E., and Mendelev, B.G.
ELECTRISCHE VELDVERDELING IN EEN GASONTLADINGSTRIODE BIJ HOGE TEGENSPANNING (Electric field distribution in a gaseous discharge triode at high inverse voltage, tr. by J.H. van Santen. 13 p. 8 refs. MTWL: 436. (Text in Dutch).
Order from OTS or ETC $1.85 61-17065

Trans. of Zhurnal Tekhnicheskoĭ Fiziki (USSR) 1951, v. 21, no.2, p. 149-154.

DESCRIPTORS: *Triodes, Electric fields, Oscillographs, *Discharge tubes, *Plasma physics.

Born, Max.
COSMIC VOYAGES AND THE CLOCK PARADOX. Dec 59, 7p. 3 refs. AFCRL-TN-60-118: MDF B-144.
Order from OTS or SLA $1.10 62-15384

Trans. of Phys[ikalische] Bl[ätter] (West Germany) 1958, v. 14, p. 207-212

DESCRIPTORS: *Space flight, *Relativity theory, Time, *Time lag theory, Gravity, Inertia, Velocity, Acceleration

The time-development theory is analyzed which states that when cosmic flights at velocities near the speed of light become possible (perhaps by using photon recoil) then any point of the cosmos can be reached in the normal lifetime of men on board the spacecraft, although when they return to earth they may find future generations. It is shown that according to the special theory of relativity the total time of motion over a closed system is less than the time measured by an observer at rest. Thus the voyager appears to be younger, upon returning, than is the stay-at-home. Within the framework of the general theory of relativity, when the voyager is considered to be at rest and the stay-at-home as moving, then the metric tensor must be defined by the gravitational field that occurs because of the noninertial system of measurement. Quantitative estimates of the difference in the behavior of a clock in a constant gravitational field from that of a clock in an inertial system with relative velocity much less than the speed of light show, according to the graphic reasoning of Einstein, that the intrinsic speed of the moving clock will be less than that of the stationary clock. An examination of the paper by H. Bondi (Discovery 18: 505, 1957) shows that this effect can also be explained in a simpler manner (i.e., by the Doppler effect). (See also PB 137 457)

Messiah, Albert.
QUANTUM MECHANICS, VOL. 1, tr. by G. M. Temmer. 1961, 520p.
Order from IP $15.00

Trans. of unidentified French language mono., n. p., n. d.

DESCRIPTORS: *Quantum mechanics, Textbooks.

Thermodynamics

Bagdoev, A. G. and Nersisyan, E. M.
PENETRATION OF ARBITRARY PRESSURE INTO A COMPRESSIBLE FLUID IN THE ISENTROPIC CASE. 11 Sep 61 [7]p. 2 refs. JPRS: 8850.
Order from OTS or SLA $1.10 61-28614

Trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 137, no. 4, p. 807-809.

DESCRIPTORS: Penetration, Pressure, *Compressible flow, *Fluids, Equations of state, *Entropy, Determination

Ertel, Hans.
THEORY OF THE THERMOCLINE IN LAKES. [1961] [23]p. 48 refs.
Order from SLA $2.60 61-20741

Trans. of an unidentified German language article, n.p., n.d.

Portions of this report will not reproduce well.

DESCRIPTORS: *Lakes, Temperature, Distribution, Theory, *Thermodynamics

The vertical distribution of the heat sources in the water layers near the surface of a lake, formed during the day, is disturbed at night by cold sources and the vertical convection resulting from them. Correspondingly, the assumption can be tried of conceiving the daily mean of the warm and cold source function as a mixing quantity, where the inclusion of the nightly vertical convection into the mean works in the direction of a compensation for the heat sources which show a vertical stratification during the day. This assumption of the mixing of the hot and cold sources in the daily means, with regard to the daily mean of the water temperature leads to a fourth-order partial differential equation, the integrals of which accurately represent characteristic features of the temporal (=time-) progress (=course-) of vertical temperature stratification during the warming period of a temperate-type lake, especially the forming, shifting and deformation of the thermocline. Here it turns out that the relations are strongly dependent on the kind of temporal change of the surface temperature of a lake. (Author)

Godnev, I. and Morozov, V.
THERMODYNAMIC FUNCTIONS OF ETHYLENE OXIDE. [1961] 3p.
Order from ATS $4.75 ATS-21N58R

Trans. of Zhur[nal] Fi[zicheskoi] Khim[ii] (USSR) 1948, v. 22, no. 7, p. 801-803.

DESCRIPTORS: *Ethylene oxide, Ethylenes, *Oxides, Thermodynamics.

Jeschar, R. and Pels Leusden, C. O.
CONVECTED HEAT TRANSFER TO CHECKER BRICKWORK IN THE LIGHT OF THE THEORY OF SIMILARITY. Jan 62.
Order from BISI £ 4 BISI-2447

Trans. of Arch[iv für das] Eisenhütt[tenwesen] (West Germany) 1961, v. 32, June, p. 361-368.

DESCRIPTORS: *Heat transfer, Convection, Brick.

Khudyakov, G.N. and Chukhanov, Z.F.
DE WARMTE-OVERDRACHT IN SUSPENSIES VAN VASTE DEELTJES IN EEN GAS (Heat exchange in the gas suspension of solid particles). 8 p. 8 refs. MTWL: 602. (Text in Dutch).
Order from OTS or ETC $1.55 61-17242

Trans. of Akademiya Nauk SSSR. Doklady, 1951, v. 80, p. 747-750.

DESCRIPTORS: Gases. *Colloids, Solids, *Heat transfer.

Nikitin, B.A., Koval'skaya, M.N. and Pushlenkov, M.F.
A METHOD FOR THE THERMAL ANALYSIS OF SYSTEMS WITH A VOLATILE COMPONENT. 9p. 5 refs. MTWL: 733.
Order from OTS or ETC $1.55 61-17278

Trans. of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk, Izvestiya, 1951, no. 6, p. 661-666.

DESCRIPTORS: *Phase studies, Heat of solution, Chemical bonds, Pressure, Temperature, *Gases, Solids, *Liquids.

Oreshko, V.F.
REGELINRICHTING VOOR DE LINEAIRE STIJGING VAN DE TEMPERATUUR VAN EEN OVEN (Regulation apparatus for the linear increasing of the temperature of a furnace), tr. by G.J.M. Fritschy. 6 p. 6 refs. MTWL: 341. (Text in Dutch).
Order from OTS or ETC $1.55 61-17214

Trans. of Zhurnal Prikladnoĭ Khimii (USSR) 1946, v. 19, p. 849-851.

DESCRIPTORS: *Ovens, Temperature, *Thermostats, Heating, Electricity.

Schulten, Rudolf and Setzwein, Andreas.
THE DEVELOPMENT OF THE BBC-KRUPP HIGH-TEMPERATURE REACTOR. [1961] 16p.
Order from STT $10.00 STT-130-441

Trans. from [ETZ] Elektrotechnische Zeitschrift. [Ausgabe B. der Elektrotechniker] (Germany) 1961, v. 13, no. 3.

DESCRIPTORS: High temperature research

Shapatina, E.A. and Kalyuzhnyĭ, V.V.
WARMTE- EN STOFOVERDRACHT TUSSEN EEN GASSTROOM EN EEN LAAG VASTE DEELTJES (Heat and material transfer in gas flowing in a layer of solid particles). 8 p. 10 refs. MTWL: 515. (Text in Dutch).
Order from OTS or ETC $1.55 61-17167

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 72, p. 503-506.

DESCRIPTORS: *Solids, Gasflow, Heat transfer.

Skuratov, S. M.
ALL-UNION CONFERENCE ON CALORIMETRY (NO. 1) MOSCOW. 17-20 JAN 61. 4 Dec 61 [11]p.
JPRS: 11454.
Order from OTS or SLA $1.60 62-13680

Trans. of #Zhurnal Fizicheskoi Khimii (USSR) 1961, v. 35, no. 8, p. 1896-1900.

DESCRIPTORS: Conferences, *Calorimetry

Voukalovich, M. P., Dzampov, B. V. and others. PROPRIETES THERMIQUES DE L'EAU SOUS DES PRESSIONS ATTEITNANT 1200 kg/cm^2 ET A DES TEMPERATURES ATTEIGNANT 300°C [Thermal Properties of Water at Pressures of up to 1200 kg/cm^2 and Temperatures of up to 300°C] tr. by B. de Trezvinsky. 15 Oct 61 [18]p. 16 refs. CEA Trans. no. R1411 (text in French).
Order from OTS or SLA $1.60 62-13825

Trans. in French of Teploenergetika (USSR) 1960, v. 7, no/ 4, p. 4-12.
A trans. in English is available from OTS or SLA $1.60 as 61-14567 [1961] 13p.

DESCRIPTORS: *Water, Thermodynamics, Tables, Pressure, Temperature.

Wave Propagation

Bass, F. G. and Kaner, E. A.
PHASE AND AMPLITUDE FLUCTUATIONS DURING VERY DISTANT ELECTROMAGNETIC WAVE PROPAGATION OVER THE EARTH'S SURFACE. Aug 61 [9]p. 6 refs. AFCRL 709; MDF B-191; AD-262 424.
Order from OTS or SLA $1.10 62-13844

Trans. of Izvestiya V[ysshikh] Uchebnykh] Z[avedenii]. Radiofizika (USSR) 1961, v. 4, no. 2, p. 377-379.

DESCRIPTORS: *Radio waves, Electromagnetic waves, *Electromagnetic wave reflections, Propagation, *Scattering, *Attenuation, Atmosphere.

The intensity of the amplitude and phase fluctuations of radiowaves are determined for the case when the scattered radiation dominates in the fluctuating part of the field and the average field is determined by means of diffraction formulas.

Ivanov, V. I.
APPLICATION OF CONFORMAL MAPPING TO THE SIMPLEST PROBLEMS OF WAVE PROPAGATION IN INHOMOGENEOUS MEDIA. Aug 61 [16] [16]p. 5 refs. AFCRL 710; MDF I-130; AD-262 425.
Order from OTS or SLA $1.60 62-13842

Trans. of Zh[urnal] Vychisl[itel'noi] Mate[matiki i] Mate[maticheskoi] Fiz[iki] (USSR) 1961, v. 1, no. 2, p. 246-254.

DESCRIPTORS: *Conformal mapping, *Electromagnetic waves, *Propagation, Mathematical analysis, Partial differential equations.

Consideration is given to the 2-dimensional problem of the propagation of a periodic wave in a domain G with boundry Γ and refractive index n(x, y):

$$\Delta U + k^2 n^2(x, y) U = f(x, y),$$

where $U|_\Gamma = 0$. It is shown that conformal mapping permits the reduction of the problem of wave propagation in cylindrically-stratified media to the simpler problem of a planar-stratified medium with the refractive index $N(u) = e^u n(e^u)$. For the field of a filament-like source in a planar stratified half-space with exponential of the refractive index the use of conformal mapping is shown to simplify the equation, but at the expense of some complication of the shape of the domain. The problem of wave propagation in a cylindrically-inhomogeneous medium with $n(r) = (\frac{r}{a})^p$ for $p \neq -1$ can be reduced directly to the problem of diffraction around a cylinder in a homogeneous medium.

Pisareva, V. V.
ON THE QUESTION OF THE LIMITS OF APPLICABILITY OF THE SMOOTH PERTURBATIONS METHOD IN THE PROBLEM OF RADIATION PROPAGATION THROUGH A MEDIUM WITH INHOMOGENEITIES. Aug 61 [8]p. 4 refs. AFCRL 708; MDF P-170; AD-262 423.
Order from OTS or SLA $1.10 62-13843

Trans. of Izvestiya V[ysshikh] U[chebnykh] Z[avedenii]. Radiofizika (USSR) 1961, v. 4, no. 2, p. 376-377.

DESCRIPTORS: Technological intelligence, Translations, *Radio waves, *Propagation, Perturbation theory, Mathematical analysis.

The solution for the mean value of the second approximation found by T. A. Shirokova (Akusticheskii Zhurnal 5: 485, 1959) is used to obtain the integral condition of the applicability of the solution of the linearized equation. The same limits of applicability are obtained as were previously found by a less rigorous approach (Akustich. Zhur. 6: 87, 1960). For large values of the wave parameter $D = 4L/k_0 l \gg 1$, the solution obtained by the smooth perturbation method is valid under the same limitations as is the solution obtained by the small perturbations method, namely $0.7\sqrt{\overline{(\alpha\psi_1)^2}} \ll 1$. (here L is distance, k_0 the wave number in vacuo, l the mean size of the inhomogeneities, $\alpha = \sqrt{\overline{\mu^2}}$, where μ is the deviation of the refractive index from the average value, and $\alpha\psi_1$ is a term of the expansion of ψ in a series in the small parameter α. This inequality is also a sufficient condition for $D \gg 1$. The inequality $0.6\sqrt{\overline{[\ln(A/A_0)]^2}} \ll 1$ is both necessary and sufficient for small values of the wave parameter (i.e., $D \ll 1$). (Here A and A_0 are the amplitudes of the perturbed and unperturbed waves.)

Talyzin, N. V.
PLANE WAVE INCIDENCE ON A SELECTIVE REFLECTING SURFACE. Aug 61 [18]p. 5 refs. AFCRL 707; MDF T-155; AD-262 527.
Order from OTS or SLA $1.60 62-13840

Trans. of #Elektrosvyaz' (USSR) 1961, v. 15, no. 3, p. 8-17.

DESCRIPTORS: *Electromagnetic waves, *Electromagnetic wave reflections, Surfaces, Reflection, Surface properties, Impedance, Energy, Reflectors, Wave transmission, Metals, Bessel functions, Fourier analysis, Differential equations, Functions, *Solid state physics.

Normal incidence is considered of a plane wave on a selective reflecting surface which is in the form of a system of separate resonating elements, dipoles. The secondary field of the selective surface, the current excited in the dipoles by the incident field and the reflection and transmission coefficients are determined. Graphs are given which permit the computation of the reflection and transmission coefficients of a selective reflecting surface in a wide wave band. Experimental results are presented for the transmission coefficients. (Author)

RESEARCH METHODS, TECHNIQUES AND EQUIPMENT

CURRENT REVIEW OF THE SOVIET TECHNICAL PRESS, 3-24 NOV 61. [1961] 4 nos.
Order from OTS $7.00/6 mos. 60-21441(78-81)
foreign $9.00/6 mos.

Contains reviews in English of Soviet press articles.

DESCRIPTORS: *Industrial research, *Scientific research

CURRENT REVIEW OF THE SOVIET TECHNICAL PRESS, 1-29 DEC 61 [1961] 5 nos.
Order from OTS $7.00/6 mos. 60-21441(82-86)

DESCRIPTORS: *Industrial research, *Scientific research.

Contains reviews in English of Soviet press articles.

FROM THE PRESIDIUM OF THE ACADEMY OF SCIENCES URSR: ON THE APPROVAL OF THE PLAN FOR THE SCIENTIFIC-RESEARCH AND COORDINATION ACTIVITIES OF THE COMMITTEE DEVOTED TO THE STUDY OF THE PRODUCTIVE FORCES OF THE UKRAINIAN RSR. 11 Dec 61 [10]p. JPRS: 11538.
Order from OTS or SLA $1.10 62-13663

Trans. of Akademiya Nauk URSR, Kiev. Dopovidi, 1961, no. 7, p. 970-975.

DESCRIPTORS: Scientific organizations, Conferences, *Scientific research, Research program administration.

HERALD OF COMMUNICATIONS, 1958, NO. 1(214). 20 Oct 61 [144[p. JPRS: 5915.
Order from OTS or SLA $11.00 62-13024

Trans. of Vestnik Svyazi (USSR) 1958 [v. 18] no. 1(214) including covers.

DESCRIPTORS: *Communication systems, *Communications theory, Periodicals, USSR, Frequency meters, Dispensers, Radio relay systems, Personnel, Housing, Construction, Labor, Standardization, Telephone communication systems, Teletype systems, Radio communication systems, Horizontal indicators, Broadband, Electron tubes, Voltmeters, Radio broadcasting, Switching circuits, Telegraph systems, Multichannel telephone systems, *Communication equipment, Design, Postal services, Television transmitters.

Contents:

We must build more homes for communications workers (editorial)
Our experience in the construction of residential homes in Krasnodar Kray, by M. F. Tarasov
A crossbar telephone branch office with a capacity of 100 numbers, by G. A. Novikov and E. K. Opol'-skaya
Connecting teletypewriter stations into a teletype network, by A. S. Selivanov
Attendant's place for servicing radio communications channels, by S. P. Borisovski
A device for checking level indicators and wide-band vacuum-tube voltmeters, by I. E. Moiseev
A switching circuit for radiobroadcast programs, by P. A. Palladin
Frequency-measuring device, by A. Ya. Stukman
The worksite of the wirephoto operator, by S. O. Mel'nik
Redesigning the conference-circuit outlet at the Gor'kiy interurban telephone exchange, by B. P. Dobrolyubov
Standardization of labor in district communications offices, by M. K. Lobova
To complete the radiofication of Ukraine villages, by I. T. Kirichenko
Our experience in servicing cable installations within the city telephone system, by E. L. Kogan
We must raise the level of skill among supervisors of branch communications offices, by V. V. Aleksandrov
Mail delivery on intradistrict routes, by P. I. Lysykh
An exemplary branch communications office, by S. G. Volkov and L. Ya. Yakovlev
Communications workers initiative
The results in the competition for the best suggestion
Device for testing quality of splices in cables with polyvinyl sheathing, by A. E. Tsuprikov
Creations of rationalizers and inventors
Subscriber's telegraph in the German Democratic Republic, by V. Khentshel'
The transportation of mail, by V. I. Radukhin and N. D. Stas': review by Yu. N. Kasperovich
One hundred years of the Russian postage stamp, by K. F. Takoev.

NEWS OF THE ACADEMY OF SCIENCES MOLDAVIAN SSR: SELECTED ARTICLES. 20 Nov 61 [33]p. JPRS: 11199.
Order from OTS or SLA $3.60 62-13516

Trans. from Sovetskaya Moldaviya (USSR) 1961, 3-4 Aug.

DESCRIPTORS: *Scientific research, Scientific organizations, Conferences.

Contents:
Ya. S. Grosul, president of the Academy of Sciences Moldavian SSR
Academy of Sciences Moldavian SSR, by M. Keldysh and M. Agoshkov
General meeting of the Academy of Sciences Moldavian SSR
Scientific session of the Academy of Sciences Moldavian SSR (no. 1)
Academy of Sciences Moldavian SSR for all the scientists of Soviet Moldavia
Opening of the Academy of sciences Moldavian SSR
Speech delivered by I. I. Bodyul
On the development of scientific research and the tasks of the Academy of Sciences Moldavian SSR: report of Ya. S. Grosul.

OPENING SESSION OF THE ACADEMY OF SCIENCES MOLDAVIAN SSR. 27 Oct 61 [26]p. JPRS: 10646.
Order from OTS or SLA $2.60 62-13241

Trans. from Sovetskaya Moldaviya (USSR) 1961, no. 182(5060) p. 1-3.

DESCRIPTORS: *Scientific organizations, Conferences.

SCIENCE NEWS, 1958, NO. 19-1959, NO. 5: [SELECTED] DOMESTIC NEWS ITEMS. 22 May 61, 73p. JPRS: 7803.
Order from OTS $2.00 61-31160

Trans. of 77 short news items from K'o Hsüeh Hsin Wen (Chinese People's Republic) 1958, no. 19, p. 465-468; no. 20, p. 489-492; no. 22, p. 537-540; no. 23, p. 561-564; no. 24, p. 585-588; and 1959, no. 5, p. 22-23.

DESCRIPTORS: *Science, *Scientific research, China, Periodicals.

Broido, D.
AUTOMATIC READING. [1961] 16p. (15 figs. omitted). 50 refs.
Order from SLA $1.60 62-10126

Trans. of Feinwerktechnik (West Germany) 1958 [v. 62] Mar, p. 81-86.

DESCRIPTORS: *Reading machines, Tests

Typical embodiments of reading machines are briefly described.

Paducheva, E. V. and Shumilina, A. L.
APPLIED AND MATHEMATICAL LINGUISTICS: DESCRIPTION OF RUSSIAN SYNTAGMS (IN CONNECTION WITH THE CONSTRUCTION OF A MACHINE TRANSLATION ALGORITHM). Foreign Developments in Machine Translation and Information Processing no. 48. 11 Oct 61 [40]p. 6 refs. JPRS: 10429.
Order from OTS or SLA $3.60 61-28905

Trans. of Voprosy Yazykoznaniya (USSR) 1961 [v. 10] no. 4, p. 105-115.

DESCRIPTORS: *Machine translation, Language, Mathematics, Vocabulary

A consistent description of syntactic relations (or connections) between words in the Russian language is presented. The difference in syntactic relations between words is due to differences in types of word combinations. The term syntagm is used here to designate a class of word combinations with identical syntactic relations. This study presents a list of syntagms and shows the manner in which this list was obtained.

Ziv, D. M. and Shestakov, B. I.
METHOD OF DETERMINING THE WETTING ANGLE AND SURFACE OR INTERPHASE TENSION. [1961] 3p.
Order from RIS $4.00 RIS S-2118

Trans. of USSR description of invention for author's certificate 120675, cl. 42k, 4607, submitted 11 July 58 under no. 603823/22 (pub. in Byulleten' Izobretenii (USSR) 1959, no. 12 [p. 45-46]).

DESCRIPTORS: *Liquid metals, Metals, Materials, Surface properties, Temperature, Photographic analysis, *Gamma rays, Iridium, Thulium, Europium, Radioactive isotopes, Isotopes.

SOCIAL SCIENCES

USSR CONSUMER GOODS AND DOMESTIC TRADE: SELECTED TRANSLATIONS NO. 3. 21 Apr 61, 46p. JPRS: 8129.
Order from OTS $1.25 61-21697

Trans. of Kozhevenno-Obuvnaya Promyshlennost' (USSR) 1960, no. 11, p. 2-3; Lesnaya Promyshlennost' (USSR) 1961, no. 9, p. 2-3 and no. 10, p. 1-2; Sakharnaya Promyshlennost' (USSR) 1960 [v. 34] no. 12, p. 4; Myasnaya Industriya SSSR, 1960 [v. 31] no. 6, p. 2-3, and 9; Finansy SSSR, 1960, no. 11, p. 20-26; Planovoe Khozyaistvo (USSR) 1960, no. 11, p. 12 and no. 12, p. 59-62; Nauchnye Doklady Vysshei Shkoly. Ekonomicheskie Nauki (USSR) 1960, no. 4, p. 25; also 12 selected short articles from 9 Russian newspapers.

DESCRIPTORS: Meat, *Textiles, *Food, Urban areas, Rural areas, Construction, Refrigeration systems, *Paper industry, Banking, Money, *Commerce, *Shoes, Consumption, Sulfate pulp, Wood pulp, *Electrical equipment, Electrical industry, *Economics, Carbohydrates.

Contents:

To better satisfy the footwear requirements of the people
Progress in fulfilling the decree if the Central Committee CPSU and the Council of Ministers USSR on measures to eliminate the lag in the pulp and paper industry, by G. M. Orlov
Progress in fulfilling the decree of the Central Committee CPSU and the Council of Ministers USSR on measures to eliminate the lag in the pulp and paper industry of the RSFSR, by K. M. Gerasimov
New sugar plant in the Tambov region
New sugar plant in North Ossetia
New meat enterprises
New meat combine
The third section of the Stalinabad textile combine is under construction
Production of electrical household appliances
New refrigerator
The improvement of finance in Soviet trade, by G. Gofman
Resolution of the material-technical supply system (sales and light food industries) by M. Lyashko
Reserves for decreasing administrative expenditures in Latvian trade organizations, by V. Ivanov
Organization of the Tselinnyi Krai Union of Consumer Societies
Cooperative trade in cities
New trade construction projects in Ukrainian rural areas, by N. Gladkov
Cheap, good, and rapid construction of trade enterprises, by V. Kokorev
New stores in the Estonian SSR
New stores in the Georgian SSR
New commission trade stores in the Ukrainian SSR
The new ruble buys more at the market
Improved standard of living.

BOOK REVIEWS

The following book reviews can be ordered by number from OTS or SLA for $1.10 each. Each review includes, in addition to the material shown, a detailed statement of the coverage of the book and detailed table of contents.

BR-SOV/5530
Smiryagin, A. P., and others.
HANDBOOK ON THE PROCESSING OF NONFERROUS METALS AND ALLOYS(Spravochnik po obrabotke tsvetnykh metallov i splavov) Moscow, Metallurgizdat, 1961. 872p. Errata slip inserted. 9,300 copies printed. 4p.

BR-SOV/5531
Yagubets, Aleksandr Nikolayevich, and Viktor Yakovlevich Shekhtman
DEVICES AND COMPONENTS OF AUTOMATIC CONTROL AND REGULATION SYSTEMS IN INDUSTRIAL PROCESSES; INFORMATION MANUAL(Pribory i elementy sistem avtomaticheskogo kontrolya i regulirovaniya proizvodstvennykh protsessov; spravochnoye posobiye) [Kemerovo] Kemerovskoye knizhnoye izdvo, 1960. 367p. 10,000 copies printed. 5p.

BR-SOV/5532
Volkovinskiy, Leonid Mikhaylovich, and others.
RAILROAD TELEPHONE COMMUNICATION(Zheleznodorozhnaya telefonnaya svyaz') 2d. ed., rev. and enl. Moscow, Transzheldorizdat, 1960. 483p. 8,000 copies printed. 7p.

BR-SOV/5533
Akademiya nauk SSSR. Institut elektromekhaniki.
SPECIAL PROBLEMS OF THE AUTOMATIC ELECTRIC DRIVE(Spetsial'nyye voprosy avtomatizirovannogo elektroprivoda) Moscow, Izd-vo AN SSSR, 1961. 248p. Errata slip inserted. 6,500 copies printed. 4p.

BR-SOV/5534
Kulikovskiy, Longin Frantsevich
INDUCTION DISPLACEMENT INDICATORS(Induktivnyye izmeriteli peremeshcheniy) Moscow, Gosenergoizdat, 1961. 279p. Errata slip inserted. 12,000 copies printed. 4p.

BR-SOV/5536
Baklushin, Petr Aleksandrovich, and others.
AUTOMATION OF HEAT POWER INSTALLATIONS (Avtomatizatsiya teploenergeticheskikh ustanovok) Moscow, Gosenergoizdat, 1960. 351p. Errata slip inserted. 15,000 copies printed. 5p.

BR-SOV/5538
Samarin, Aleksandr Mikhaylovich
VACUUM TREATMENT OF MOLTEN STEEL(Obrabotka zhidkoy stali v vakumme) Moscow, Metallurgizdat, 1960. 126p. 2,500 copies printed. 1p.

BR-SOV/5540
Khara, Valentin Vasil'yevich, and Georgiy Mikhaylovich Mikitin
TEACHING AND TRAINING AIDS IN RADIO ENGINEERING(Uchebno-demonstratsionnyye posobiya po radiotekhnike) Moscow, Voyenizdat M-va obor. SSSR, 1960. 225p. No. of copies printed not given. 4p.

BR-SOV/5542
Akademiya nauk SSSR. Morskoy gidrofizicheskiy institut
HYDROMETEOROLOGY, HYDROCHEMISTRY (Gidrometeorologiya, Gidrokhimiya) Moscow, 1959. 173p. (Series: Its: Trudy, tom 16) Errata slip inserted. 1,200 copies printed. 1p.

BR-SOV/5544
Tomashov, N. D.
CORROSION AND PROTECTION OF CONSTRUCTIONAL METALS; COLLECTION OF ARTICLES(Korroziya i zashchita konstruktsionnykh metallicheskikh materialov; sbornik statey) Moscow, Mashgiz, 1961. 258p. Errata slip inserted. 10,000 copies printed. 3p.

BR-SOV/5545
Ivanov, Sergey Aleksandrovich
DESIGNING THE GROUP-MACHINING SETUPS OF AUTOMATIC LATHES(Proyektirovaniye gruppovykh naladok tokarnykh avtomatov) Moscow, Mashgiz, 1960. 70p. Errata slip inserted. 5,000 copies printed. 1p.

BR-SOV/5546
Ashrabov, Abbas Babayevich, and others.
PRODUCTION TECHNOLOGY OF KERAMZIT-CONCRETE [POROUS CONCRETE] PRODUCTS AND PREFABRICATED EARTHQUAKE-PROOF ELEMENTS (Tekhnologiya proizvodstva keramzitobetonnykh izdeliy i sbornyye seysmostoykiye konstruktsii) Tashkent, Gos. izd-vo Uzbekskoy SSR, 1960. 161p. 2,000 copies printed. 1p.

BR-SOV/5547
Arkhipov, Georgiy Vladimirovich
AUTOMATIC REGULATION OF VENTILATION AND AIR CONDITIONING; BASIC FLOW SHEETS OF AUTOMATIC REGULATION SYSTEMS(Avtomaticheskoye regulirovaniye ventilyatsii i konditsionirovaniya vozdukha; printsipial'nyye tekhnologicheskiye skhemy sistem avtomaticheskogo regulirovaniya) Moscow, Gosenergoizdat, 1961. 175p. (Series: Biblioteka po avtomatike, vyp. 26) 10,000 copies printed. 3p.

BR-SOV/5548
Panovko, Yakov Gilelevich
INTERNAL FRICTION DURING THE VIBRATIONS OF ELASTIC SYSTEMS(Vnutrenneye treniye pri kolebaniyakh uprugikh sistem) Moscow, Fizmatgiz, 1960. 193p. 6,000 copies printed. 3p.

BR-SOV/5549
Grudinskaya, Galina Petrovna
PROPAGATION OF VHF AND MICROWAVES (Rasprostraneniye ul'trakorotkikh radiovoln) 2d. ed., rev. Moscow, Gosenergoizdat, 1960. 103p. (Series: Massovaya radiobiblioteka, vyp. 382) 50,000 copies printed. 2p.

BR-SOV/5550
Akademiya Nauk SSSR. Laboratoriya magnitnykh elementov.
MAGNETIC ELEMENTS; COLLECTION OF ARTICLES (Magnitnyye elementy; sbornik statey) Moscow, 1960. 313p. 700 copies printed. 2p.

BR-SOV/5551
El'tsufin, Mikhail Abramovich, and Aleksey Pavlovich Pilitsyn
INSTALLATION, SETUP, AND REPAIR OF TURBO-COMPRESSOR AND TURBOGENERATOR UNITS (Montazh, naladka i remont turbokompressornykh i turbogeneratornykh ustanovok) Moscow, 1960. 407p. Errata slip inserted. 8,000 copies printed. 3p.

BR-SOV/5552
Dolidze, David Yegorovich (Deceased)
SOME PROBLEMS IN THE NONSTATIONARY FLOW OF VISCOUS LIQUID; POTENTIAL AND INTEGRAL EQUATION METHOD(Nekotoryye voprosy nestatsionarnogo techeniya vyazkoy zhidkosti; metod potentsialov i integral'nykh uravneniy) Tbilisi, Izd-vo AN Gruzinskoy SSR, 1960. 331p. 1,000 copies printed. 3p.

BR-SOV/5553
Korolev, Makariy Lavrent'yevich
NITROGEN AS THE ALLOYING ELEMENT IN STEEL (Azot kak legiruyushchiy element stali) Moscow, Metallurgizdat, 1961. 161p. 3,200 copies printed. 1p.

BR-SOV/5554
Kazakov, Nikolay Fedotovich
RADIOISOTOPES IN THE INVESTIGATION OF THE CUTTING-TOOL WEAR(Radioaktivnyye izotopy v issledovanii iznosa rezhushchego instrumenta) Moscow, Mashgiz, 1960. 327p. Errata slip inserted. 5p.

BR-SOV/5555
Bernshteyn, M. L.
LECTURES ON PHYSICAL METALLURGY, EQUIPMENT, AND THE PROCESS OF METAL HEAT TREATMENT; THE PHYSICAL METALLURGY OF HEAT-RESISTANT ALLOYS(Kurs lektsiy po metallovedeniyu, oborudovaniyu i tekhnologii termicheskoy obrabotki metallov; metallovedeniye zharoprochnykh splavov) Moscow, 1959. 49p. 300 copies printed. 1p.

BR-SOV/5556
Moscow. Institut stali.
NEW [DEVELOPMENTS] IN THE THEORY AND PRACTICE OF OPEN-HEARTH STEELMAKING(Novoye v teorii i praktike proizvodstva martenovskoy stali) Moscow, Metallurgizdat, 1961. 439p. (Series: Trudy Mezhvuzovskogo nauchnogo soveshchaniya) 2,150 copies printed. 7p.

BR-POL/5557
Warsaw. Instytut Lotnictwa.
AVIATION INSTITUTE. PAPERS. NO. 12(Prace Instytutu Lotnictwa. Nr. 12) Warsaw, 1960. 63p. 500 copies printed. 1p.

BR-SOV/5558
Galitskiy, Boris Akimovich, and Boris Ivanovich Belyakov
MANUFACTURING PROCESSES IN COMPRESSOR CONSTRUCTION(Tekhnologiya kompressorostroyeniya) 3rd. ed., rev. and enl. Moscow, Mashgiz, 1961. 525p. Errata slip inserted. 10,000 copies printed. 4p.

BR-SOV/5559
Ordyntsev, Vyacheslav Mikhaylovich, and Yuliy Ivanovich Shendler
AUTOMATIC CONTROL AND CONTROLLERS OF MANUFACTURING PROCESSES; FUNDAMENTALS OF THE THEORY(Avtomaticheskoye regulirovaniye i avtomaticheskiye regulyatory tekhnologicheskikh protsessov; osnovy teorii) Moscow, Mashgiz, 1960. 504p. 4p.

BR-SOV/5560
Yakzhin, Aleksandr Andreyevich
SEARCH FOR AND PROSPECTING OF URANIUM DEPOSITS(Poiski i razvedka uranovykh mestorozhdeniy) Moscow, Gosgeoltekhizdat, 1961. 479p. 15,000 copies printed. 5p.

TRANSLATIONS IN PROCESS

CONFERENCE ON HEAT AND MASS TRANSFER [HELD AT] MINSK, 5-9 JUNE 61: SELECTED PAPERS.
Tezisy Dokladov i Soobshchenii na Soveshchanii po Teplo-i Massoobmenu, Minsk, n. d.

WORKS OF THE CENTRAL SCIENTIFIC RESEARCH INSTITUTE OF GEODESY, AERIAL SURVEYING AND CARTOGRAPHY.
Tsentral'nyi Nauchno-Issledovatel'skii Institut Geodezii, Aeros'emki i Kartografii. Trudy (USSR) 1959, no. 129, p. 3-259.

Adryanov, O. S. and Rabinovich, M. Ya.
MECHANISMS AND LOCALIZATION OF THE SWITCHING FUNCTION OF THE BRAIN.
Russian mono. Mekotorye Teoreticheskie Voprosy Stroeniya i Deiatel'nosti Mozga, 1960, p. 152-178.

Akhiezer, N., and Krein, M.
SOME QUESTIONS IN THE THEORY OF MOMENTS.
Russian mono. O Nekotorykh Voprosakh Teorii Momentav, Kharkov, 1938, 255p. 1/

Aleksandrov, A. D., Kolmogorov, A. N., and Lavrent'ev, M. A. (Editors).
MATHEMATICS: ITS CONTENT, METHODS AND MEANING.
Russian mono. Matematika, ee Soderzanie, Metody, Znachenie, Moscow, 1956, 3 v., 1025p. 2/

Aleksandrov, S. G. and Fedorov, R. E.
SOVIET SATELLITES AND SPACE SHIPS.
Mono. Sovetskie Sputniki i Kosmicheskie Korabli, 2d ed., Moscow, 1961, p. 24-82, 117-124, 144-147, 182-184, 217-242, 256-394, 427-436.

Berlin, V. I.
RESULTS OF THE STUDY OF THE GENERAL MORBIDITY OF THE RURAL POPULATION.
Russian mono. Opyt Izucheniya Obshchei Zabolevaemosti Naseleniya Sel'skogo Rayona, 1961, 103p.

Chernyi, A. M.
CLINICAL-PHYSIOLOGICAL NATURE OF HYPOXIC CONDITIONS; AND HYPOXIC TYPE OF OXYGEN DEFICIENCY.
Russian mono. Patofiziologiya Gipoksicheskikh Sostoyanyi, 1961, p. 98-143.

Dolgov, A. P. and Solov'eva, L. V.
SKIN DISEASES INDUCED BY THE EFFECT OF PHYSICAL FACTORS: ARTIFICIAL DERMATOSES.
Russian mono. Vrachebno-Trudovaya Ekspertiza Zabolevanii Kozhi, 1961, 111-141.

Fadeev, V. G., Pechatin, A. A., and Surovikin, V. D.
MAN UNDER WATER.
Russian mono. Chelovek pod Vodoi, 1960, chaps. 3 and 4, p. 53-97, 124-147.

Frank, G. M. and Aladzhalova, N. A.
INFORMATION FROM AN INVESTIGATION OF EARLY REACTIONS OF THE ORGANISM TO RADIATION ACTION.
Russian mono. Issledovanie Rennykh Reaktsii Organizma na Radiatsionnoe Vozdeistvie, 1960, p. 5-13, 167-221.

Isachenko, A. G.
LANDSCAPE MAPPING (DEFINITION, STATE, AND PROBLEMS) (A REPORT ON THE THEORY AND PRACTICAL APPLICATION OF LANDSCAPE STUDY METHODS PREPARED FOR THE III CONGRESS OF THE USSR GEOGRAPHICAL SOCIETY).
Russian mono. Materialy k III S'ezdu Geograficheskogo Obshchestva Soyuza SSR, 1960, 26p.

Kanfor, S. S.
NAVAL STRUCTURAL STEEL.
Russian mono. Korpusnaya Stal', 1960, 376p.

Khrushchov, G. K., Brodskii, V. Ya., and Rukitin, Yu. V.
THE ORGAN AND THE CELL (CERTAIN PROBLEMS IN CYTOLOGY AND HISTOLOGY) [AND] THE USE OF CHEMICAL COMPOUNDS AS AGENTS ACTING ON PLANTS.
Uspekhi Sovremennoi Biologii (USSR) 1961, v. 52, no. 2(5) p. 181-223.

Letavet, A. A., Gordon, Z. V. and others.
THE BIOLOGICAL ACTION OF ULTRAHIGH FREQUENCIES.
Russian mono. O Biologicheskom Vozdeistvii Sverkhvysokikh Chastot, 1960, 134p.

Ol'shanskii, M. A.
TASKS OF AGRICULTURAL SCIENCE.
Vestnik Sel'skokhozyaistvennoi Nauki (USSR) 1961, v. 6, no. 9, p. 22-54.

Pospelova-Shtrom, M. V.
ORNITHODORINI TICKS AND THEIR EPIDEMIOLOGICAL SIGNIFICANCE.
Russian mono. Kleshchi-Ornitodoriny i Ikh Epidemiologicheskoe Znachenie, 1953, 237p.

Pyatetskii-Shapiro, I. I.
AUTOMORPHIC FUNCTIONS AND THE GEOMETRY OF CLASSICAL DOMAINS.
Russian mono. Geometriya Klassicheskikh Oblastei i Teoriya Avtomorfnykh Funktsii, Moscow, 1961. 3/

Shparo, L. A., Fokina, T. V. and others.
THE CHARACTERISTICS OF THE REACTION OF A GROWING ORGANISM TO IONIZING RADIATION ACTION.
Russian mono. Osobennosti Reaktsii Rastuyushchego Organizma na Deistvie Ioniziruyushchei Radiatsii, 1960, 161p.

Sivintsev, Yu. V.
BACKGROUND IRRADIATION OF THE HUMAN ORGANISM.
Russian mono. Fonovoe Oblychenie Chelovacheskogo Organizma, 1960, 95p.

Sobolev, S. L.
SOME APPLICATIONS OF FUNCTIONAL ANALYSIS IN MATHEMATICAL PHYSICS.
Russian mono. Nekotorye Primeneniya Funktsional'-nogo Analiza v Matematicheskoi Fizike, Leningrad, 1950, 255p. 4/

Streits, V., Bodner, V. A. and others.
THEORY OF AUTONOMOUSNESS AND INVARIANCE OF MULTIPARAMETRIC CONTROL SYSTEMS WITH NUMERICAL CONTROL [AND] ON THE THEORY OF INERTIAL PENDULUM SYSTEMS.
Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Energetika i Avtomatika, 1961, no. 5, p. 51-71, 163-173.

Zel'tsman, G. I.
THE PHYSIOLOGICAL BASES OF MAN'S SURVIVAL UNDER INCREASED PRESSURE CONDITIONS IN A GAS MEDIUM: EXTRACTS.
Russian mono. Fiziologicheskie Osnovy Prebyvaniya Cheloveka v Usloviyakh Povyshennogo Davleniya Gazovoi Sredy, 1961, p. 92-95, 113-119, 125-131, 159-166.

1/ To be published by the American Mathematical Society. 190 Hope Street, Providence 6, R. I.

2/ To be published by the American Mathematical Society. 190 Hope Street, Providence 6, R. I.

3/ To be published by GB.

4/ To be published by the American Mathematical Society. 190 Hope Street, Providence 6, R. I.

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No changes are necessary for this issue.